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How Cypriot primary school teachers promote their professional development through reflective practice

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**HOW CYPRIOT PRIMARY SCHOOL
TEACHERS PROMOTE THEIR
PROFESSIONAL DEVELOPMENT
THROUGH REFLECTIVE
PRACTICE**

Florentia Loizou

**A thesis submitted for the degree of
Doctor of Education**

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ABSTRACT

This study aims to examine whether and to what extent Cypriot primary school teachers understand and engage in reflective practice and the implication of this for their professional development.

In particular this study explores the Cypriot primary school teachers' understanding of professional development; their engagement in and understanding of reflective practice; the changes brought about in practice through reflective practice; the factors associated with these changes; and the extent to which Cypriot primary school teachers set themselves long term goals for professional development as an outcome of reflection.

The study is qualitative and uses semi-structured interviews in which 18 Cypriot primary school teachers describe and explain their experiences and illustrate these with examples from their practice.

The analysis of the interviews revealed that Cypriot primary school teachers perceive professional development as the receipt of knowledge from an official authority, mainly the Ministry of Education and Culture (MOEC). Whereas the Cypriot primary school teachers use reflective practice to compare their practice with performance outcomes, comparison of their practice with espoused beliefs is either ignored or limited. Espoused beliefs are only analysed through reflective practice in relation to teaching methods. The study reveals how changes in practice, which are brought about as an outcome of reflective practice, are associated with the following factors:

- a) length of teaching experience;

- b) theories in use which can either restrict or promote the critical examination of practice and change;
- c) the kind of professional exchange in which the teachers engage.

In addition a mismatch emerged between the Cypriot primary school teachers' views of reflection and their long term goals for professional development.

This study concludes by discussing the implications of the findings and suggests ways in which Cypriot primary school teachers can be encouraged to recognize the knowledge which they develop from their own practice and to increase their understanding and use of reflective practice. It also identifies the need for changes in the organizational environments in Cypriot primary schools in order to support the developmental needs of its teachers including the reconsideration of the dual role of inspectors who are responsible for both professional development and evaluation.

CHAPTER 1: INTRODUCTION

The aim of this study is to explore: how Cypriot primary school teachers promote their professional development through reflective practice. The study is qualitative and uses semi-structured interviews, in which teachers describe and explain their experiences with examples from their practice. These rich data allow the 'espoused theories' and 'theories in use' to be identified. The study begins with an exploration of the Cypriot primary school teachers' understanding of professional development and reflective practice; their engagement in reflective practice and the nature of reflective practice. The findings go on to reveal what changes the teachers bring about in practice through reflection; which factors are associated with the quality of these changes and finishes with an identification of the extent to which Cypriot primary school teachers set themselves professional growth goals as an outcome of reflection. This study identifies a mismatch between the Cypriot primary school teachers' focus of reflection and their long term professional growth goals. This chapter sets out my personal position within the research; the national context of the study; and finally provides an overview of the thesis as a whole.

My personal position within the research

I have been working as a teacher in Cypriot primary schools for the past fourteen years. I have always believed that the knowledge primary school teachers acquire in their initial training, serves as a basis for starting their career and that they must

continually seek to develop professionally in order to promote their pupils' effective learning. In particular I have been interested to find out the extent to which Cypriot primary school teachers build on the experience they acquire in schools, as well as on that of their colleagues, in order to grow professionally. The value position I am taking in undertaking this study is positive towards policy, which concerns the professional development of primary school teachers in Cyprus, and the possibility of improving opportunities for this development.

The national context of the study

In Cyprus, a small island in the Mediterranean Sea, the educational system is centralized. The Ministry of Education and Culture (MOEC) is responsible for educational policy making. All primary schools (apart from a limited number of private primary schools) are the responsibility of the government and are run according to the guidelines decided by the MOEC. Teachers' transfers or promotions are decided by the Educational Service Commission, the members of which are appointed by the president of Cyprus. The evaluation of individual teachers, as well as of schools as units, is conducted by inspectors from the MOEC. Primary education is compulsory (6-12 years) and children are grouped with other children of the same age in mixed ability classes.

The aims and goals that should be pursued in each primary school are also decided by the MOEC. Circulars are sent to each primary school at the beginning of each year in which these goals are specified and directions for their implementation are provided.

If a certain school decides that it is necessary to pursue more goals than the goals prescribed by the Ministry, it has the freedom to do so, as long as the latter goals are not neglected. The curriculum for the primary school or any changes in this curriculum are prescribed by the MOEC. Textbooks with which this curriculum will be taught, as well as teachers' books, are prepared and sent to schools by services approved by the MOEC. Guidelines about the teaching of this curriculum are also sent by the MOEC either through circulars or editions like the "Curriculum Programmes for Primary Education" (MOEC, 1997).

Opportunities for professional development are provided by the MOEC and the Pedagogical Institute (tertiary level institute responsible for in-service training). These opportunities include circulars, teachers' books and short seminars by the MOEC and afternoon voluntary classes by the Pedagogical Institute. The above developmental opportunities are based on the giving of information.

Inspectors are responsible for both primary school teachers' evaluation and professional development. Due to their load of work however, they visit teachers very few times. The head teacher's role description, related to promoting staff development, is broad (see Appendix C). Consequently, how they will deal with this matter, it is up to them. Other opportunities to meet Cypriot primary school teachers' developmental needs within the school context or outside do not exist in Cyprus.

Apart from limited opportunities for professional development the Cypriot educational system does not provide incentives for professional growth that could result from changing responsibilities within the school context or from advancement.

The professional responsibilities of Cypriot primary school teachers remain the same for the first thirteen years of their career. For the first eleven years of their appointment they are assessed in the form of essay reviews from inspectors. In the 12th and 13th year, as well as every other year after the 13th (e.g. 13th, 15th, 17th) their assessment, in addition to essay reviews, involves marking. In order to apply for promotion to the position of deputy head teacher they must have at least 13 years of teaching experience and at least two assessments with marking. Due to these criteria they can apply for promotion after the 13th year of experience. Consequently their first promotion and change in responsibilities will come either after 13 years of teaching experience or more usually after at least more 5 years in addition to this.

In this system I would argue that it is important to find out whether teachers, despite the lack of opportunity from the system to grow professionally, continue to take the initiative to develop themselves professionally. This study will provide an in-depth understanding of how Cypriot primary school teachers approach their professional development as well as how the Cypriot educational system affects their stance towards this issue. The findings allow me to speculate on how to eliminate or reduce the factors that inhibit teachers' professional development and how to maximize the benefit of factors that promote teachers' professional growth.

Overview of the thesis

Chapter 1 describes the national context of the study and explains my personal interest.

Chapter 2 provides the rationale for the study and explains the theoretical context of the study. The main strength of the theory used is that it specifies processes and questions that must be asked in order to identify and meet discrepancies between espoused theories and theories in use. If these discrepancies remain unexamined change and development can be inhibited. Consequently their identification is of primary importance for professional development. A review of the research literature on collaboration enables me to examine whether processes, which are claimed to be followed by teachers in order to bring about changes in practice, are explicitly described.

One limitation of espoused theory is that although it is easy to describe it is not easy to teach or to use in order to evaluate the processes of thinking one uses to examine and change practice. This is because these processes are underpinned by beliefs held in one's unconscious (theories in use). As one may not be aware of these beliefs (theories in use), what one espouses when examining practice, may not be in agreement with one's actions. Espoused theory provides a framework to engage in professional exchange in order to identify discrepancies between one's espoused beliefs and theories in use. Whether this will happen however, depends to a large extent on the expertise in reflection of the person, who undertakes to help another reflect on practice, interpret, question and analyse classroom behaviour or other data concerning teaching.

Chapter 3 explains and justifies the methodology used. In this chapter a discussion takes place of which is the most appropriate paradigm within which the research questions of the study can be addressed. It continues with a discussion of advantages and limitations of the research method which was used; the sample selection; the way data was analysed; and issues of credibility and ethical considerations. It finishes with a discussion of the strengths and limitations of the research design.

Chapter 4 presents the findings of the study. The findings reveal the Cypriot primary school teachers' understanding of professional development and reflective practice; the forms of reflection in which Cypriot primary school teachers engage; the kind of change they bring about in their practice through reflection; factors which are associated with these changes; and finishes by presenting the Cypriot primary school teachers' professional growth goals.

Chapter 5 discusses the findings of the study. The chapter begins with a discussion of the association of the term professional development with knowledge from official authorities. A discussion follows about the effect of imposed demands from an official authority (inspector) on professional development. The chapter continues with an exploration of underlying reasons for: the need for trust by teachers of 12-18 years; the preference of the Cypriot primary school teachers for reflection between practice and outcomes; and the limitations of reflection between practice and espoused beliefs about teaching methods. The chapter finishes with a discussion about: the implications of the teachers' partial understanding of reflection between espoused beliefs and practice; factors which are associated with changes in practice;

and the mismatch between the focus of Cypriot primary school teachers' reflections and their goals for long term professional development.

Chapter 6 presents the conclusions of this study and recommendations for future research. This chapter concludes with an evaluation of the research design and a discussion of implications of the findings.

CHAPTER 2: REVIEW OF THE LITERATURE

In this chapter I discuss the term professional development in order to show that change in practice is a significant part of development. I continue with a review of reflective practice literature. In this review I identify processes for reflection, which can promote the examination of practice in ways that can lead to substantial change and development. As an outcome of this discussion I provide a definition of the term reflective practice. I also define which changes in practice I will consider substantial. After this I discuss whether I should address social, political and moral issues in this study. I present attitudes and abilities, which are necessary for engaging in reflective practice. I review literature on collaboration in order to examine whether processes, which are claimed to be followed by teachers in order to help each other bring about changes in practice, are explicitly described. Finally I discuss why it is important to examine whether Cypriot primary school teachers promote their professional development and the extent to which they take a reflective approach.

Definitions of professional development are limited in the relevant literature. Evans (2002) provides a definition followed by a discussion of elements that lie within this definition. According to Evans (2002) professional development is “the process whereby teachers’ professionalism and / or professionalism may be considered to be enhanced” (p.132). Professionalism is defined as “an ideologically -, attitudinally – and epistemologically – based stance on the part of an individual, in relation to the practice of the profession to which she/ he belongs, and which influences her/ his professional practice.” (p.131). Evans (2002) discusses how within this definition the following two constituent elements of teacher development can be identified:

- a) Attitudinal development. This is “the process whereby teachers’ attitudes to their work are modified” (p.132). It incorporates intellectual features (increase in knowledge or in the ability to be reflective or analytical) and motivational features (e.g. teachers’ motivation towards various aspects of their work).
- b) Functional development. This is “the process whereby teachers’ professional performance may be improved” (p.132). It incorporates procedural features (e.g. changes in the procedures teachers utilize) and productive features (changes in what or how much teachers ‘produce’ or ‘do’ at work).

The above definition by Evans (2002) refers to both processes for promoting professional development (intellectual features) and to outcomes of this development (changes in procedures and productivity). It also refers to motivational features. In addition, in a discussion that follows, Evans (2002) claims that professional development is a process which may be on-going or which may have occurred and it is completed. In this case completion of development refers to one aspect of a professional’s development and it is considered transient as it may be resumed in either the same or a different way. Evans (2002) also identifies factors, which can affect professional development such as changes in professional responsibilities and culture.

Another definition is provided by Day (1999):

“Professional development consists of all natural learning experiences and those conscious and planned activities which are intended to be of direct or indirect benefit to the individual, group or school and which contribute, through these, to the quality of education in the classroom. It is the process by which, alone and with others, teachers review, renew and extend their commitment as change agents to the moral purposes of teaching; and by

which they acquire and develop critically the knowledge, skills and emotional intelligence essential to good professional thinking, planning and practice with children, young people and colleagues through each phase of their teaching lives.” (p.4)

For Day (1999) professional development is a lifelong process. It consists of both planned and unplanned learning experiences. In 1993 Day had presented the same definition without however, including in it unplanned learning experiences. I would argue that unplanned learning should be included with planned learning in a definition of professional development. The reason is that what is important for one's professional development is the quality of what one learns; not whether this learning is planned or unplanned. Day (1999) highlights the importance of teachers' thinking for teaching. According to this definition good professional thinking is an outcome of professional development and it is interconnected with planning and practice. Processes for enhancing professional thinking, and through this, planning and practice, are the acquiring and development of knowledge, skills and emotional intelligence. He also points attention to the fact that professional development can take place either privately or with others. In this definition Day (1999) views teaching as a moral activity. He claims that the changes teachers bring about must be in line with the moral purpose of teaching, which is to make a difference in the lives of students.

According to Bolam (2002) professional development is:

- “an ongoing process of education, training and support activities
- taking place in either external or work-based settings
- proactively engaged in by qualified, professional teachers, head teachers and other school leaders

- aimed primarily at promoting learning and development of their professional knowledge, skills and values
- to help them to decide on and implement valued changes in their teaching and leadership behaviour
- so that they can educate their students more effectively
- thus achieving an agreed balance between individual, school and national needs.”

(p.103-104)

For Bolam (2002) professional development is an on-going process. Processes for professional development include: education; training; learning and support activities aimed to promote professional knowledge; skills; and values. Outcomes of professional development can be valued changes in teaching and leadership behaviour; a more effective education of students; and a balance between individual, school and national needs.

In all of the above definitions professional development is presented as a lifelong process through which teachers develop professional knowledge (Bolam, 2002; Day, 1999; Evans, 2002); skills (Bolam, 2002; Day, 1999); values (Bolam, 2002); attitudes (Evans, 2002); and emotional intelligence (Day, 1999). Another common element of the above definitions is that the outcome of professional development is change. In all of the definitions this change concerns practice (Bolam, 2002; Day, 1999; Evans, 2002). In one definition change also refers to planning and professional thinking (Day, 1999). Changes in planning and professional thinking however, contribute to changes in practice because teachers’ thinking and planning concern what they will do in class. Hence change in practice is the major outcome of professional development as all the above definitions show. Change in leadership behaviour is also mentioned

by Bolam (2002). This however, refers to development concerning school leaders. I will not address this kind of development in this study.

Although the development of knowledge, skills, values and emotional intelligence is important for change in practice to take place, it is not enough. Change in behaviour, and in particular in classroom behaviour, is part of a complex process which is related to the unconscious. In order to examine how change in behaviour can be achieved, I will discuss the theories of action which have been developed by Argyris and Schön (1974). Other authors such as Brockbank and McGill (1998) and Osterman and Kottkamp (1993) have built on these theories. Argyris and Schön (1974) discuss that there are two types of theories of action. These are the espoused theories and theories in use. Espoused theories are comprised of beliefs, attitudes and values that people espouse (report), (Argyris, 1993). They are what people are able to say they think and believe about their actions (Osterman and Kottkamp, 1993). They exist at a conscious level. As a result they can be easily articulated and changed. Espoused theories do not guide behaviour though. Human behaviour is underpinned by theories in use. The theories in use are employed when people engage in action (Argyris, 1993). They are people's actions. These theories contain assumptions and beliefs, which build up and solidify over a long period of time and they are reinforced through acculturation (Osterman and Kottkamp, 1993). As a result they become deeply ingrained in the unconscious and drive people's actions without them being aware of these theories. In order to heed attention to how blind our conscious is to our theories in use, Osterman and Kottkamp (1993) mention: "theories in use ... become such an integrated part of our beings that they are difficult to isolate. They disappear from our conscious foreground and become background" (p.10). Argyris (1993) and Schön

(1983) use the adjective skillful in order to describe human behaviour. Skillful as Argyris (1993) explains, is the behaviour which appears effortless and it is produced automatically without much conscious attention to the process. The reason is that this behaviour is the outcome of theories in use, which have become so internalized that they are taken for granted (Argyris, 1993).

One outcome of the unconscious existence of theories in use is that people may not be aware of what their experience has taught them about their practice. People may be able to perform their practice very well and yet they may not be able to explicitly describe their actions and explain their underlying rationale. The reason is that actions are underpinned by theories which are ingrained in their unconscious and they cannot be articulated. Due to this people may not be aware of all that has taken place while in action or of what they have come to know, through the years, about how to perform their practice. Shön (1987) uses the term “knowing in action” in order to show that people know what to do while in action and stresses that “knowing in action” is implicit. In the field of education Wildman et al. (1990) discuss that much of teachers’ knowing about teaching is not consciously available to them because this knowing is embedded in their actions. Similar claims have been made by Brockbank and McGill (1998) who discuss reflective practice in Higher Education. They claim that even if they are explicit about the process they follow in order to enable learners to learn, there may be a whole range of unintended happenings on their part (let alone the students) of which they may be entirely unaware. Consequently they recognize that, until their process practice is brought to their consciousness, they do not know about it.

Another outcome of the unconscious existence of theories in use is discrepancies between theories in use and espoused theories or between actions and outcomes. Sometimes what people espouse about their actions may be different from what they actually do. This is because they are unaware of the theories in use in their unconscious. As an outcome people may have an idea in their conscious about their actions, which may differ from their theories in use. This is a discrepancy between theories in use and espoused theories. There are cases however, where what people say about their actions and these actions are aligned. Despite this the outcomes of these actions are ineffective because these actions are underpinned by unsound theories in use. Although people may realize that the outcomes of their actions are unsatisfactory, they may keep applying the same approach with the hope that this approach will, at some time in the future, produce desirable outcomes. People do not give up these approaches because the theories in use, which underpin them, are so deeply ingrained in people's unconscious that they take them for granted. As an outcome they cannot evaluate them. As a consequence, they cannot see the relationship between their actions and the unacceptable outcomes. This is why Osterman and Kottkamp (1993) claim that people are often blind to the impact of their actions. This is a discrepancy between actions and outcomes. Argyris (1993) claims that his research in the field of business has shown that these discrepancies are often and fundamental. Although this conclusion refers to the field of business, the fact that these discrepancies are a characteristic of human behaviour, make this conclusion relevant to all fields. Furthermore Argyris (1993) claims that individuals develop designs (he refers to strategies for action) to keep them unaware of these discrepancies, especially when issues are embarrassing or threatening. Even when individuals espouse change in their actions, theories in use can unconsciously drive

them to keep acting in the same way without even been aware of it. This is why Argyris (1986, 1993) claims that human beings are skillfully incompetent.

Theories in use are not easy to change because they cannot be articulated. The reason for this is that they exist at an unconscious level. Due to this people cannot question their effectiveness and as a result they cannot feel the urge to bring about changes in their behaviour. They cannot change something they are not aware of and that they cannot even talk about. Information cannot change theories in use. It can only change what people can articulate. People can articulate their espoused theories because they exist at a conscious level. Change in espoused theories cannot guarantee change in behaviour. It may only lead to minor modifications. The actual behaviour however, remains the same as theories in use remain the same. This is what Argyris and Shön (1974) call single loop learning. On the contrary these writers stress that real change and professional development take place when theories in use change. This is what they call double loop learning. Consequently the conscious awareness of theories in use is necessary for fundamental change in behaviour.

There is agreement in the literature that people can become aware of the taken for granted assumptions that unconsciously guide their practice (whether named theories in use or not) through describing and discussing their practice with other colleagues (Argyris and Shön, 1974; Brockbank and McGill, 1998; Day, 1985, 1993, 1999; Gayhe and Gayhe, 1998; Osterman and Kottkamp, 1993; Rodgers, 2002; Woodcock et al., 2004). The taken for granted assumptions that guide action (theories in use) are implicit in people's behaviour. Through descriptions of practice they can become articulated and explicit. The reason is that the words, one uses to describe actions,

actually describe theories in use since these theories underpin actions. Consequently awareness of theories in use can be achieved when people describe their own actions. Personal reflection may not lead to substantial change. If people reflect on their own there is no need to articulate their actions because no one is listening. Consequently in this case theories in use run the risk of remaining implicit. In order to underline this, Day (1985, 1993, 1999) has argued that reflection is not a sufficient condition for learning unless confrontation by others can occur.

If the examination of practice with colleagues will lead to substantial change in this practice, information must be elicited about both espoused theories and theories in use. As I have discussed espoused theories are easier to elicit than theories in use because people are consciously aware of them. The range of beliefs, teachers can espouse however, can be broad. Calderhead (1996) summarizes five areas of teachers' beliefs. These areas are the following:

- a) Beliefs about learners and learning. These beliefs refer to students and how students learn. They are likely to influence how teachers approach teaching tasks and how they interact with their students.
- b) Beliefs about teaching. These beliefs refer to the nature and purposes of teaching.
- c) Beliefs about subject. These beliefs refer to what the subjects of the curriculum are about, what it means to know these subjects and to the ability to carry out tasks effectively within each subject domain.
- d) Beliefs about learning to teach. These beliefs concern professional development and how one learns to teach.
- e) Beliefs about self and the teaching role. These are beliefs that teachers hold about themselves and the teaching role.

This categorization shows that since there are at least five areas of teachers' beliefs, teachers probably hold many beliefs that belong to each of these areas. Consequently, in order to elicit as many espoused beliefs as possible, questions must be asked about beliefs in all of the above five areas.

Osterman and Kottkamp (1993) suggest questions of a broader nature. These questions refer to beliefs, values, goals, philosophies or priorities. By asking such questions various espoused beliefs can be elicited. Examples of such questions are provided below:

“... what are some of your most important goals and priorities?

Of the things that you do, which do you consider to be the most important?

What are the beliefs and values about the aspects of your work that you have named as important to you?

How do you go about attempting to accomplish your goals?

What are your methods of working towards these goals?

How would you describe your philosophy as an educator?”

(p.71)

Gayhe and Gayhe (1998) propose the use of value statements. Through these statements information is collected about espoused beliefs. These statements can start with the phrase “I believe ...” followed by the word “because ...”. In this way teachers can express what they espouse and provide rationale for these beliefs. I would argue that either of the above methods can lead to eliciting espoused beliefs. This is because they exist at a conscious level and as an outcome they can be articulated when people are asked to refer to their beliefs or values.

In addition to espoused theories, theories in use must also come to the surface during the examination of practice with colleagues. Theories in use are harder to surface due to their unconscious nature. Teachers can become aware of their theories in use by describing their practice to other colleagues. A more effective way to promote this awareness is when teachers are provided with descriptions of their practice from their colleagues. If colleagues will describe each other's practice however, they will need to observe each other teach. As I have discussed, people may not be able to describe in detail their actions because these actions are underpinned by theories in use which are unconscious. Someone else however, can observe everything one does while in action; even aspects or details about one's practice, one might not be able to remember or articulate on his/her own. As Osterman and Kottkamp (1993) argue: "A careful observer can identify our behavioral regularities and the assumptions that lie beneath them" (p.7). These authors use the term behavioral regularities to refer to patterns of behaviour which become habitual despite the fact they are ineffective. The reason for this is unawareness of discrepancies between espoused theories and theories in use or between actions and outcomes.

Descriptions of practice must incorporate not only cognitive aspects of behaviour, but also emotional aspects in order to lead to the unraveling of theories in use in the most effective way. Human experience is multidimensional. Both cognitive and emotional aspects must be provided in order to be comprehensively described. Cognitive aspects include espoused beliefs, intentions, values, attitudes and actions. Emotional aspects refer to feelings. According to Osterman and Kottkamp (1993) feelings are important because actions are influenced not only by ideas, but also by feelings. Any kind of human experience is always accompanied by feelings, which are aroused

while the action takes place. I would argue that by asking people to describe feelings that prompted certain actions, suggested by Osterman and Kottkamp (1993), or by pointing attention to feelings an observer has noticed, suggested by Brockbank and McGill (1998), further exploration of theories in use can be achieved. The reason is that people can become aware of how unconscious assumptions underpin their actions when they are forced to articulate their feelings and discuss how certain feelings make them think and act. At this point I must mention that ways of reflection, which are suggested by Brockbank and McGill (1998) refer to educators in Higher Education. Despite this, I mention them because the basic guidelines they provide can be used by educators of any level in order to examine practice. In order to show the importance of paying attention to feelings during reflection on practice, Osterman and Kottkamp (1993) stress that “only by understanding the personal reactions of ourselves and others can we come to a full understanding of the problem and develop appropriate solutions” (p.24).

In order to boost even further awareness of theories in use, when descriptions of practice are provided, it is useful to ask people to justify why they did a certain action. Such questions can be: “Why did you do it in that way? What were you thinking about?” (Osterman and Kottkamp, 1993, p.61). According to Osterman and Kottkamp (1993) asking people why can help them begin to see their own theories in use. I would argue that by encouraging people to explore reasons or beliefs, that underpin actions, after these actions have been described, people will have to articulate theories which will justify engaging in these actions. Consequently they are likely to surface unconscious theories which underlie their actions.

In the cases where practice has been observed, pointing attention to professionals' non-verbal communication can be another way of unearthing theories in use. According to Brockbank and McGill (1998) this way of questioning practice can give rise to aspects of one's behaviour one is unaware of. Furthermore, encouraging professionals into an exploration of the teaching process, that goes beyond their existing understanding of it (Brockbank and McGill, 1998), is another way of bringing to the surface theories in use. An example of this kind of questioning is provided by Brockbank and McGill (1998): "What do you think stopped the students asking you questions when they were invited to do so?" (p.112). Although this question refers to students in Higher Education, I mention it as an example of how one can point attention to aspects of practice that might remain unnoticed or to which little attention might be given. I would argue that asking professionals to explore aspects of a teaching process, which might have remained unnoticed, can be beneficial for their professional development. This is because teachers would be forced to articulate aspects of practice they might have never reflected on without their colleagues' encouragement. As a result theories in use, which might have remained buried in their unconscious, can come to the surface.

When information is gathered about both espoused theories and theories in use, the focus of discussion can be placed on the identification of discrepancies between either espoused theories and theories in use or actions and outcomes. In order to identify whether the first type of discrepancy exists, professionals must examine whether actions are consistent with intentions (Brockbank and McGill, 1996; Osterman and Kottkamp, 1993). The word intentions is used by Brockbank and McGill (1998) and Osterman and Kottkamp (1993) in order to refer to espoused beliefs. In the case

where value statements have been used, professionals will examine whether and how far the values expressed in the value statements are lived out in the described practice (Gayhe and Gayhe, 1998). In order to identify whether discrepancies exist between actions and outcomes, professionals must examine whether actions were effective in achieving stated outcomes (Osterman and Kottkamp, 1993). In addition they can look into the extent to which intended outcomes have been achieved (Brockbank and McGill, 1998). Attention must also be given to examining whether the outcomes of one's practice, as perceived by this person, match the actual outcomes of this practice (Gayhe and Gayhe, 1998). In this way professionals can examine whether what they espouse about the outcomes of their practice is in line with what actually takes place. The discovery of a possible discrepancy between perceived and actual outcomes can prompt them to examine whether their actions are the appropriate. Another way of exploring discrepancies between actions and outcomes, in the cases where a colleague has observed another's teaching, is to draw attention to unintended outcomes (Brockbank and McGill, 1998). By focusing on unintended outcomes, one can examine the suitability of one's actions. As an outcome one can identify discrepancies between actions and outcomes.

Other ways of exploring discrepancies between espoused theories and theories in use or between actions and outcomes is to question or compare assumptions, perspectives and interpretations held by the person describing practice and those who listen (Brookfield, 1995; Loughran, 2002; Rodgers, 2002; Woodcock et al. 2004). Brookfield (1995) suggests that the professionals, who report assumptions that they think underpin the practice which is described by their colleagues, should do this in a non-judgemental way. This author suggests that in order to achieve this they should

use phrases like: “It seems as if ...” “I wonder if one assumption you might be holding is that ...”, “It is possible that you assumed that...”. I would argue that in this way assumptions can be reported in a way that will not distress the person whose practice is discussed. The same author also advises that the alternative versions of the described practice, which are provided, must be based on the facts. Another suggestion, which is provided by Rodgers (2002) concerning the discussion of different explanations or perspectives, is that professionals clarify the meaning of the words which are used. In this way misunderstandings can be avoided. I must mention that the process of challenging assumptions and discussing alternative perspectives, provided by Woodcock et al. (2004), is aided by two facilitators who have observed the story teller’s practice and have read his/her reflective journal. This is a process designed however, for students who attend courses at a university. Despite this, I would argue that this process can also be used with in-service teachers if there is a possibility that trained facilitators of reflection work with them.

Listening to assumptions of others about what underpins one’s practice, or to alternative interpretations or perspectives, can boost the identification of discrepancies of behaviour. This is because one will be able to examine whether what one espouses about practice is in line with what others think that it is happening in action. Consequently discrepancies between espoused beliefs and actions can be revealed. In addition discrepancies between actions and outcomes can also be revealed. On the one hand by questioning or comparing assumptions, one will be able to examine whether these assumptions are appropriate for what one aims to achieve. On the other hand discussions of alternative interpretations and perspectives can also refer to outcomes and hence one can examine whether outcomes were the intended.

After the identification of discrepancies, discussion can continue in order to find how to meet them. Discrepancies can be met by designing alternative ways of action based on more appropriate theories in use or by aligning espoused theories with actions. Once improvements in practice are made, further reflection on the nature of these improvements can take place (Gayhe and Gayhe, 1998). Reflection on the nature of improvements can again lead to the identification of various discrepancies. For example one can examine whether the process to achieve these improvements has taken place as espoused (discrepancy between espoused beliefs and actions). One can also examine whether the level of these improvements is the expected (discrepancy between actions and outcomes).

One definition of reflective practice, which presents it as a process of awareness of unconscious theories in order to change behaviour, is provided by Osterman and Kottkamp (1993):

“ ... reflective practice is viewed as a means by which practitioners can develop a greater level of self-awareness about the nature and impact of their performance, an awareness that creates opportunities for professional growth and development.” (p.19)

According to this definition professional growth and development become possible when awareness about the nature and impact of one's actions is developed. This awareness demands surfacing one's theories in use that underlie actions. In addition it demands examining whether one's actions lead to desired outcomes or whether one's actions are aligned with espoused theories. The outcome of this examination will be the identification of possible discrepancies either between espoused theories and theories in use or between actions and outcomes. As a consequence of adopting the

above definition in this study, I will consider reflectivity to be of high level when the above discrepancies are identified. In addition I will consider changes in behaviour to be substantial when the above discrepancies are met.

There are authors who claim that ethical and moral criteria should be used to examine the theories in use that underpin one's actions (Day, 1999; Gore and Zeichner, 1991; Harrington et al., 1996; Valli, 1990; Valli, 1992; Van Manen, 1977; Zeichner, 1986; Zeichner and Liston, 1987) or to be taken into account when future action is considered (Jay and Johnson, 2002). For some authors such as Van Manen (1977) and Valli (1990, 1992) this aspect of reflection is among the aspects of reflection which represent the highest level of reflection. I recognize that moral and ethical issues are usually embedded in many aspects of one's teaching. On the one hand, many times teachers have to fulfil not only cognitive goals, but also goals considering the development of attitudes and values. On the other hand their behaviour towards pupils can give rise to questions of a moral and ethical nature such as whether pupils are treated equally, whether they are given the necessary reinforcement, etc. My aim in this study however, is to examine reflection on teaching that concerns cognitive goals. Consequently I will focus on changes in practice which take place in order to achieve these goals. I will not examine other aspects of teaching, which concern moral and ethical issues, and which may be related with processes to achieve these goals.

In addition to the examination of moral and ethical issues, there are authors who suggest that reflection on practice must include an examination of how the broader political, historical, social and cultural context affects the development of taken for

granted assumptions (theories in use) that underpin one's teaching (Brookfield, 1995; Day, 1999; Francis, 1997; Harrington et al., 1996; Smyth, 1989; Van Manen, 1977). Relevant to the above claim is the claim by Jay and Johnson (2002) that the broader historical and socio-political context of schooling should be taken into account when plans for future action are made. For Jay and Johnson (2002), Smyth (1989) and Van Manen (1977) reflection, which takes into account the broader socio-political, historical and cultural context, is considered to be of the highest level along with reflection which takes into account ethical or moral criteria. I recognize that every society aims to develop a certain kind of citizen through education, in order to satisfy political, social, financial and cultural goals. As a result in every educational system, educational practices and knowledge are shaped by political, social, economical and cultural conditions. Due to this, the examination of the above dimensions can enhance the reflective process and lead to greater awareness of the factors that affect one's practice.

The examination of the effect of the political and socio-cultural context on one's theories in use however, will not be an aim of this study. In the Cypriot educational system educational aims, practices, knowledge and attitudes, which must be promoted by teachers in the Cypriot public primary schools, are determined by the Ministry of Education and Culture (MOEC). The range of changes teachers can bring about must fall within the MOEC guidelines. For example they can choose which teaching methods to apply in order to fulfil particular educational aims and goals. The way however, they will fulfil these aims and goals must not deviate from the MOEC guidelines. In no case they can reject aims and goals which are prescribed by the MOEC. If they engage in this kind of questioning practice, they are likely to become

aware of how the broader socio-cultural and political context affects their personal theories. Despite this they will still have to promote the same kind of knowledge, attitudes and practices.

In addition in this study I examine changes in practice that concern cognitive goals. I would argue that it is possible to bring about substantial changes in teaching, concerning cognitive goals, without examining whether political and socio-cultural factors have affected one's theories in use. As I have discussed substantial changes in one's practice can be brought about when discrepancies are met between espoused theories and theories in use or between actions and outcomes. Consequently substantial changes in practice can take place even if one does not become aware of how political, social and cultural factors influence the development of one's theories in use. For example if teachers aim to teach fractions effectively in grade 3, they will have to reflect on ways of instruction with which pupils will be able to learn more easily or which are more aligned with espoused theories. When these discrepancies are met, substantial changes in practice are likely to be made. These changes however, can still take place irrelevant of whether these teachers become aware of political, social and cultural influences on the development of their theories in use, that concern the teaching of the above topic.

Authors are in agreement that engaging in reflective practice is neither a straightforward process nor a process with a predetermined end. It is a cyclical process (Argyris and Shön, 1974; Brockbank and McGill, 1998; Day, 1999; Eby and Kujawa, 1994; Gayhe and Gayhe, 1998; Osterman and Kottkamp, 1993; Pollard, 2002; Pugach and Johnson, 1990; Rodgers, 2002; Schön, 1987; Woodcock et al.,

2004). When professionals engage in reflective practice they aim to bring about substantial changes in practice in order to fulfil long-term growth goals and develop professionally. In order to achieve these goals they must: collect and analyse data from their practice; become aware of their underlying theories in use; identify discrepancies between espoused theories and theories in use or between actions and outcomes; and think of alternative ways of action. During this process they may move backwards or forwards between various stages of reflection. For example they may have analysed data and begun to identify discrepancies of behaviour. At this time they may have to go back to their data to look for additional information so as to become aware of other aspects of their practice before reflecting on new ways of action. In addition when changes in practice are implemented, as an outcome of reflection, professionals still have to reflect on the extent to which these changes meet their professional growth goals. As a consequence the cycle of reflection will begin again.

Teachers, who engage in reflective practice, should examine critically external frameworks or other requirements for teaching, which are imposed on them by superiors (if this happens in the educational system in which they work). This form of reflective practice is defined by Pollard (2002) as creative mediation. It involves the interpretation of external frameworks or other requirements for teaching in the light of the teachers' context, values and educational principles. Reflective teachers ought to examine the extent to which external requirements are fit for the educational context in which they work. In addition they must examine the extent to which these requirements are aligned with their personal theories. Pollard's (2002) claim for creative mediation is similar to the claim by Coldron and Smith (1999) that teachers

must not use uncritically scientific models of teaching. Although they do not imply that these models are externally imposed, the similarity with the above claim lies in the fact that teachers should be critical before using others' ways of teaching. According to Coldron and Smith (1999) teachers should evaluate models of teaching by reflecting on how they were used by others and with what outcomes. In addition these authors add that teachers must experiment with these models in order to test their assumptions and perceptions about these models. In the Cypriot educational system requirements, frameworks or models of teaching are usually imposed by the Ministry of Education and Culture (MOEC). Due to this I would argue that it is important to examine whether and to what extent Cypriot primary school teachers reflect critically on their use and adapt them to their class situation.

Engaging in reflective practice demands having certain competences. These competences were first introduced by Dewey (1933) and they were adopted and developed by other authors such as LaBoskey (1993) and Pollard (2002). These competences are the following:

- a. Competence of gathering new evidence. It is about collecting objective data. This kind of data refers to classroom processes, causes and effects. It is also about collecting subjective data such as feelings, thoughts and perceptions. This competence can provide insight in examining practice and its outcomes.
- b. Analytical competence. This is about interpreting descriptive data. It demands placing facts in a framework, which will enable relating facts one with the other and theorizing about them. In this way a clearer understanding of the nature of this data can be achieved. As an outcome the taken for granted assumptions (theories in use), on which one's behaviour is

underpinned, and the real impact of one's actions have a good chance to be identified. After this, discrepancies between actions and outcomes or between espoused beliefs and theories in use can be recognized. Consequently room for substantial change is created.

- c. Evaluative competence. It is about making judgements about the educational consequences of the outcomes of one's practical enquiry. I would argue that evaluating the consequences of one's reflections on practice is important for both teachers' professional growth and pupils' learning. By evaluating how the outcomes of one's practical enquiry will affect one's future practice, one is actually setting benchmarks against which to judge the actions which will follow. In cases where these actions will not meet these benchmarks, then this will be an incentive to start reflecting on practice again.

The desire to engage in critical reflection on one's practice in order to set professional growth goals must be underpinned by attitudes that reflect commitment to professional development. These attitudes were first introduced by Dewey (1933). They were adopted by other authors as vital ingredients of professional commitment (Pollard, 2002) and as factors of determining the propensity to engage in reflective practice (LaBoskey, 1993). These attitudes are the following:

- a) Wholeheartedness. This attitude is about having a strong desire to promote one's professional development. The desire to develop is a prerequisite for engaging in reflection because no one can force people to develop unless they want to. It must be mentioned that Harrington et al. (1996) interpret wholeheartedness as identifying and clarifying

limitations in one's assumptions. I agree that someone, who has the desire to develop, will want to clarify limitations in one's assumptions in order to achieve professional growth. I would argue however, that this does not necessarily mean that a person with a strong desire to develop automatically has this ability. It may demand training and time until this ability is developed. Consequently it is one thing to have the desire to develop and another to have the ability to identify and clarify limitations in one's assumptions. Wholeheartedness, as the desire to develop, is merely the motive to guide one towards reflection in order to develop professionally. Whether these reflections will be successful demands having or developing abilities which I have discussed.

- b) Open-mindedness. It is about being ready to consider other ways of engaging in one's practice. Having an open mind also demands not rushing into conclusions before actively searching for and examining all kinds of evidence; even evidence which may be conflicting. I would argue that without open mindedness professionals may stay stuck with only one way of thinking or of approaching practice. The reason is that they would probably value only their way of teaching and consider others' suggestions with negativity. I would argue however that, although reflective teachers should be open-minded, they should view others' suggestions with a critical eye. This is because not all suggestions may prove to be fit for one's educational goals in one's educational context. Being critical demands examining the underlying

assumptions of other's suggestions as well as the outcomes that they may lead to in one's context.

- c) Responsibility. It is about taking responsibility for the outcomes of one's actions. I would argue that this is an attitude that underpins the willingness to develop professionally. This is because professionals, who accept responsibility for the consequences of their actions, also accept responsibility to enhance their performance and produce better outcomes.

A study by LaBoskey (1993) with pre-service teachers showed that the propensity to engage in reflective practice is determined by the above attitudes.

Despite the information provided by the theoretical literature on reflection, research literature about the collaboration of in-service teachers (primary or secondary) does not provide much information about how professional discussions have taken place. These studies usually provide general information about the teachers' discussions. They inform the reader of the topics which were discussed (Bryk et al., 1999). They mention that a sharing took place of: problems (Naysmith and Palma, 1998); ideas and experiences (Butler et al., 2004; Naysmith and Palma, 1998); successful strategies and problem solving challenges (Butler et al., 2004); information, knowledge, lesson plans and assignments (Talbert and McLaughlin, 2002); different perspectives and probable improvements (Minnet, 2003); reflections on classroom processes and organization, outcomes and the quality of learning (Hopkins et al., 1998). We are also informed that other activities that took place included joint planning and observation

of teaching followed by discussions about these observations (Hopkins and Stern, 1996); observation among colleagues and provision of feedback (Butler et al., 2004; Bryk et al., 1999); engagement in the critique of others' work and in the inventing and evaluating of new practice (Talbert and McLaughlin, 2002); as well as sharing of stories about classrooms followed by exploration, arguments and speculations (McCotter, 2001). The above studies however, do not provide explicit information about: how the above topics have been discussed; how the sharing of problems, ideas, experiences, strategies, different perspectives and reflections on practice took place; and how the teachers explored and questioned colleagues' stories about their classroom. In addition there are studies, which present and criticize non reflective dialogues of in-service teachers without explaining how reflective dialogues should take place (Scribner, 1999).

The research literature on collaboration neither connects the reflective practice literature with the advantages of collaboration or with the disadvantages of its absence. There are research studies about teachers' collaboration, which discuss that collaboration has been professionally beneficial (McCotter, 2001; Minnet, 2003; Naysmith and Palma, 1998; Talbert and McLaughlin, 2002) and report changes that took place such as conceptual change in teachers' knowledge (Butler et al., 2004). These studies however, do not look into whether or what discrepancies of behaviour have been met with the described improvements or changes. If they had, the reader would be able to know the level of change in these teachers' professional behaviour. Neither do studies about teachers' collaboration use the reflective practice literature to look deeper into why isolation limits professional development (Talbert and McLaughlin, 2002). I would argue that such an exploration should underline the fact

that the examination of practice in isolation runs the risk of leaving theories in use unexamined and unchanged.

The fact that research literature on collaboration does not provide much information about how teachers' professional discussions should take place, in order to boost substantial changes in practice, is a gap in this literature. In addition the fact that it neither specifies whether and what kind of discrepancies of behaviour are met with changes, which are the outcome of reflection, is another gap. I would argue that conclusions could be drawn about how teachers' professional discussions can boost substantial changes in practice, if more information was provided about:

- a) how professional discussions, which have led to changes in practice, have taken place;
- b) the kind of changes, which were the outcome of these discussions.

In addition I must mention that research, concerning the Cypriot primary school teachers' collaboration, is limited in the Cypriot educational context. This study aims to bridge the gap concerning how teachers' professional discussions take place and what kind of changes these discussions lead to. In particular it aims to examine how Cypriot primary school teachers engage in professional exchange as well as what kind of changes they bring about in their practice as an outcome of this exchange.

At this point I must mention that there are research studies which provide transcripts of peer collaboration sessions. One such study is provided by Pugach and Johnson (1990). This study refers to a research project in which in-service elementary and high school teachers were trained in order to reflect with peers in particular ways. After this they were asked to implement these ways in their discussions of practice

with peers. Other studies, which provide transcripts of peer collaboration sessions, refer to pre-service students. These students took part in university courses where they were taught by their educators to reflect on practice (Keiny, 1994; Manouchehri, 2002). The aim of this study however, is to examine how in-service Cypriot primary school teachers use to engage in collaboration without being trained to engage in this process. Consequently, when reviewing research literature on collaboration my interest is in studies, which refer to naturally occurring discussions of practice among in-service teachers.

In the Cypriot educational context the first 13 years of a primary school teacher's career do not provide incentives for professional growth that could result from changing responsibilities within the school context or from advancement. A change in the professional responsibilities of the Cypriot primary school teachers takes place when teachers are promoted to deputies. This can take place only after the 13th year of a teacher's professional experience. The reason is that in order to apply for promotion the Cypriot primary school teachers must have received at least two assessments with marking. As their first two assessments with markings are received in their 12th and 13th year of experience, they can apply for promotion after their 13th year of experience. In addition, professional development opportunities in this system are usually based on information: circulars, teachers' books and seminars by the Ministry of Education and Culture (MOEC), as well as afternoon voluntary classes by the Pedagogical Institute. As I have discussed however, information cannot change behaviour, but only people's espoused theories. Furthermore, the Cypriot primary school teachers may not benefit from these developmental opportunities as much as they should, because they take place away from their working environment. The

reason, as Megginson et al., (1993) explain, is that people may not know how to adapt what they have learned in their working context. In this system, it is important to find out whether the Cypriot primary school teachers continue to take the initiative to develop professionally, despite the lack of opportunity to grow professionally. In particular in this study I aim to explore: the Cypriot primary school teachers' understanding of professional development; ways in which they report their engagement in reflective practice and the nature of reflective practice; factors which are associated with changes they bring about in practice through reflection; and the extent to which they set long term goals for professional development as an outcome of reflective practice.

In this chapter I have argued that change in practice is an important part of professional development. I have also argued that change in practice demands engaging in dialogue with colleagues in which practice is described and questioned. In these dialogues the aim is to identify and meet discrepancies between espoused theories and theories in use or between actions and outcomes. I have discussed why I will not address political, social and moral issues in this study. I have argued that research concerning teachers' collaboration does not provide explicit details about how teachers' dialogues take place and the kind of changes these dialogues lead to. In addition I have mentioned that in the Cypriot educational context such research is limited. After this I argued that this study aims to bridge the gaps I have identified in the research literature about collaboration. Furthermore I have pointed out that Cypriot primary school teachers do not have opportunities for change in professional responsibilities the first 13 years of their career. In addition I have underlined that available opportunities for professional development are not likely to boost substantial

changes in practice because they are based on information. I have argued that it is important to examine whether Cypriot primary school teachers take the initiative to promote their professional development despite the lack of opportunity to grow professionally in their educational context. Finally I have presented the goals of this study.

In the following chapter I will discuss the methodology and research design. I will discuss the paradigm within which the research questions will be addressed; the advantages and limitations of the research method; data analysis; credibility; and ethics.

CHAPTER 3: METHODOLOGY AND RESEARCH DESIGN

In this chapter I discuss the relationship between paradigms, methodologies and research methods. I present the research questions and I discuss which paradigm is appropriate for addressing these research questions. I continue with a discussion of the research methods, the sample selection, data analysis and issues of credibility and ethical considerations. Finally I present the strengths and limitations of the research design.

Before choosing a research method, researchers must identify the connection between their research questions and the appropriate paradigm. A paradigm, according to Kuhn (1970, in Sarantakos, 1998) is “a set of beliefs, values and techniques which is shared by members of a scientific community, and which acts as a guide or map, dictating the kinds of problems scientists should address and the types of explanations that are acceptable to them” (p. 32). The beliefs, values and techniques of a paradigm underpin the formation of a methodology. “A methodology is a model, which entails theoretical principles as well as a framework that provides guidelines about how research is done in the context of a particular paradigm” (Sarantakos, 1998, p.32). Based on the theoretical principles and guidelines of a methodology, research methods are formed. These are “tools or instruments employed by researchers to gather empirical evidence or to analyse data” (Sarantakos, 1998, p.32). Consequently the choice of a research method depends on the principles and guidelines of a methodology, which in turn depends on the values, beliefs and techniques of a paradigm. Due to this, in order to decide which method to use, researchers must not only be knowledgeable about the underpinning paradigms of the methodologies that are available to them, but also know what they want to find out and the kind of

information they need to answer their research questions. That is why Punch (1998) stresses that it is by focusing exactly on what we are trying to find out that we start to see the interaction between question on the one hand and design and method on the other. Therefore, before deciding which methodology is appropriate for my research design, I must examine:

- a) the differences of the paradigms that underlie the two main research methodologies, which are currently used in research;
- b) the kind of research questions I have and the kind of information which is necessary to answer them.

After this I will be able to understand in which paradigm my research questions should be addressed. These issues are discussed in the following sections.

3.1 Research questions

The questions I investigated aimed to examine how Cypriot primary school teachers promote their professional development through reflective practice. The first question asks what is the Cypriot primary school teachers' understanding of professional development and reflective practice. The second research question asks how do the Cypriot primary school teachers engage in reflective practice and what is the nature of their reflective practice. The third research question asks what changes do Cypriot primary school teachers bring about in practice through reflection and what factors are associated with these changes. Finally the fourth research question asks to what extent do Cypriot primary school teachers set themselves professional growth goals as an outcome of reflective practice.

These questions are exploratory. In order to collect information I needed the Cypriot primary school teachers' interpretations of the terms professional development and reflective practice. In addition I needed descriptions of the processes followed by the Cypriot primary school teachers, in order to engage in reflective practice, and the teachers' interpretations of the effects of their reflections on their practice. I also needed descriptions of the changes Cypriot primary school teachers bring about in practice through reflection and of the meaning they attach to these changes. Furthermore I needed these teachers' opinions on setting long term goals for professional development, their descriptions of these goals and of the meaning they attach to these goals.

During data collection and analysis my main concern was to understand the Cypriot primary school teachers' meanings and interpretations. In order to enhance my understanding of the participants' meanings and interpretations, I needed to be aware of the context in which these teachers work as well as of how this context affects their interpretations. In addition I addressed 'why' questions in order to formulate hypotheses about what underpins the interpretations of the Cypriot primary school teachers, taking part in this study.

3.2 Paradigms

In this section I look into the differences between the underlying paradigms of the two research methodologies which are currently dominant in the social sciences. The examination of these differences will allow me to develop a better understanding of

within which paradigm I should address my research questions. These two methodologies are the quantitative and the qualitative methodologies. Although a third methodology, the critical methodology, has been practised among social scientists for some time, it is not discussed in this thesis. The reason is that it has not been fully accepted in the social sciences as a distinct, clear and independent methodology of the level of quantitative and qualitative methodologies (Sarantakos, 1998). The underpinning paradigm of quantitative research is positivism and the underpinning paradigm of qualitative research is interpretivism. The differences of these two paradigms lie in the way they perceive reality, human beings, the nature of science and the purpose of social research. I will first discuss the stance of each paradigm for each of these fundamental theoretical elements. Afterwards I will show which of these stances are more relevant to the stances that I hold towards these elements by addressing my research questions and to the kind of data I must collect in order to answer them.

Reality is perceived differently by Positivism and Interpretivism. For positivism reality is “out there” (Sarantakos, 1998; Neuman, 2000). It is external to individuals (Cohen et al., 2000). It is governed by strict, natural and unchangeable laws (Sarantakos, 1998) and it imposes itself on people’s consciousness (Cohen et al., 2000). It is objective (Sarantakos, 1998). It can be realized through the senses and uniformly by all (Sarantakos, 1998). For interpretivism reality is not “out there”, but in people’s minds (Sarantakos, 1998; Cohen et al., 2000). It is a product of individual consciousness (Cohen et al., 2000). Consequently it is subjective because it is socially constructed through experience, it can be interpreted differently by people and it is based on the definition people attach to it (Sarantakos, 1998). The reality I

am looking for with my research questions is in people's minds. It is about how Cypriot primary school teachers interpret professional development; reflective practice; the changes they bring about in practice after reflecting on it; and the need to set goals for professional development. The above interpretations may be similar or different since the educationalists mentioned above have their own personality and criteria of evaluation. Consequently the reality I investigate is subjective. In addition, this reality is socially constructed since it is about the above educationalists' interaction while engaging in the examination of practice.

Interpretivism and positivism perceive human beings in different ways. According to positivism human beings are rational, without free will (Sarantakos, 1998; Neuman, 2000). Their behaviour is learned through observation and it is governed by social rules (Sarantakos, 1998). According to interpretivism human beings are not restricted by external laws. They create the social world as well as make sense of it by assigning systems of meaning to events (Sarantakos, 1998). These systems of meaning are the results of social conventions, which are established through interaction (Sarantakos, 1998). My research questions aim to look for the systems of meaning that Cypriot primary school teachers use in order to make sense of concepts such as professional development and reflection. These systems of meaning are the outcome of the Cypriot primary school teachers' interpretations concerning the examination of their practice and professional growth.

Another difference between positivism and interpretivism is how they perceive the nature of science. For positivism science is based on strict rules and procedures. It is nomothetic because it is based on universal causal laws which are used to explain

concrete social events and relationships (Sarantakos, 1998; Neuman, 2000). Knowledge is derived from the senses (Sarantakos, 1998). It separates facts from values and hence it is value free (Sarantakos, 1998; Neuman, 2000). It is objective and tangible (Cohen et al., 2000). It is deductive as it proceeds from the general or abstract to the specific or concrete (Sarantakos, 1998; Neuman, 2000). For interpretivism science is not based on strict rules, but on common sense which is used to understand the meanings people use to make sense of their world. According to this paradigm “it is the job of the social scientist to gain access to people’s ‘common-sense thinking’ and hence to interpret their actions and their social world from their point of view” (Bryman, 2001, p. 14). In the interpretivistic paradigm science is not nomothetic, but ideographic as it presents reality symbolically in a descriptive form (Sarantakos, 1998). Knowledge is not derived through the senses, but through understanding people’s meanings and interpretations. It is not value free because value neutrality, according to interpretivism, is neither possible, nor necessary. Knowledge is personal, subjective and unique (Cohen et al., 2000). It is inductive because it proceeds from the specific or concrete to the general or abstract (Sarantakos, 1998).

In this study I used common sense to understand and interpret the meanings and interpretations of the Cypriot primary school teachers considering professional development and reflection on practice. In order to maximize my understanding of these meanings and interpretations I tried to put myself in these educationalists’ shoes so as to see things from their point of view. The knowledge, I created, was not value free, but subjective and personal as it was about the above educationalists’ interpretations as well as about my own interpretations of these educationalists’

interpretations. In addition this knowledge was inductive because I formulated hypotheses about what underpins these teachers' interpretations and meanings and I developed analytical generalizations. These were time and context specific, as they referred to the practice and interpretations of particular Cypriot primary school teachers at the time I conducted this study.

The purpose of social research is perceived differently by positivism and interpretivism. For positivism research is a tool for discovering the general causal laws that underlie social events in order to explain social life or predict events (Sarantakos, 1998; Neuman, 2000). For interpretivism research is a tool for discovering the meaning people attach to social events (Sarantakos, 1998; Neuman, 2000). The research aimed to grasp the subjective meaning of social action (Bryman, 2001) in order to understand and interpret social life. In this study I looked deeply into the Cypriot primary school teachers' meanings and interpretations during both data collection and analysis.

3.3 Research Methods

In order to explore Cypriot primary school teachers' opinions about professional development and reflective practice I needed get them to talk as much as possible about how they understand and engage in professional development; how they engage in reflection; what changes they bring about in practice through reflection and whether their reflections lead to the setting of professional growth goals. The most appropriate qualitative method to use was the interview. According to May (1997) "interview yields rich insights into people's experiences, opinions, aspirations,

attitudes and feelings” (p. 109). I agreed with May’s (1997) view because with the interview not only did I have direct access to the above educationalists’ opinions, but I could also probe so as to collect even more details (e.g. ask people to elaborate, extend, add details) or clarify my questions for the interviewees. Interviewing also enabled me to observe the interviewees’ body language. In the case where I noticed contradictions between their body language and words I asked relevant questions so as to clarify the topic under discussion. As a result I gained more in-depth information. Due to these advantages interviews have been widely used in research into reflective practice (Ambrose, 2001; Collier, 1999; Hill, 2000; Long and Stuart, 2004; McGovern, 2000; Russell, 1988; So and Watkins, 2005).

The kind of interview I used was the semi-structured. In semi-structured interviews researchers have a list of questions of fairly specific topics to be covered, but they can also ask additional questions by picking on things said by interviewees (Bryman, 2001). I prepared an interview guide with core questions and asked follow up questions, based on individual responses, to clarify or explore further topics and perspectives raised by the interviewees. Before conducting the interviews I had piloted the interview guide with a few colleagues to examine whether questions needed to be modified or clarified.

An aim of the interview questions was to allow comparison of the respondents’ espoused (reported) beliefs and theories in use (unconscious beliefs which underpin actions). In order to fulfil this aim the questions not only asked respondents to provide their opinions about various aspects of reflection, but also to provide illustrations from their practice where the espoused opinions were reflected.

Consequently I was able to compare theories in use, which were reflected in the illustrations of teachers' practice, with their espoused beliefs, which were expressed in the teachers' opinions about various aspects of reflection.

I recognized that the collection of in-depth information might not be achieved in cases when respondents felt uneasy and adopted avoidance techniques or held back from what they wanted to say (Cohen et al., 2000). A reason for this might be the fact that I am a colleague and hence they might worry about the impression they would give me. In addition they might fear that what they would say might not be kept confidential. That is why Denscombe (1998) claims that "the data from interviews are based on what people say rather than what they do. The two may not tally"(p. 137). Despite the above disadvantages, I used the interview because the direct access to people's thinking, offered by the interview, was valuable in my effort to get closer to the meanings they attach to the topics I was investigating. In order to limit the above disadvantages, I approached people in ways that ensured they felt secure and comfortable. My main concern was to assure interviewees that their responses would be kept confidential. In addition, in order to eliminate the effect of my presence as a colleague, I tried to remain neutral when respondents answered as well as not ask leading questions.

In addition to interviews, the examination of teachers' reflective journals could also be used in order to collect information about the main aims of this study. The examination of reflective journals has been widely used in research concerning reflective practice (Bell, 2001; Collier, 1999; Dart et al, 1998; Francis, 1995; Mallette et al., 2000; Moore, 2003; Stuart and Thurlow, 2000; Ward and McCotter 2004).

These studies refer to student teachers who kept reflective journals as a requirement of their course. In the Cypriot educational system however, keeping a reflective journal is not officially required and therefore this source of data was not universally available.

3.4 The Sample

In the Cypriot educational system all public primary schools follow the guidelines of the Ministry of Education and Culture (MOEC). The educational aims and goals, pursued in each public primary school, as well as how each school is organized, must be in agreement with these guidelines. Therefore in the Cypriot educational system any sample of primary school teachers would, by selection, be representative of Cypriot primary school teachers in general. As a result I limited the study to in depth interviews with 18 participants, but avoided aspects which might have skewed the sample. These aspects were the age and length of service of the teachers, school location (a rural or urban setting) and colleagues at the same schools. These aspects could affect how the teachers respond to the interview questions. In order to eliminate the effect of the above aspects, the sample consisted of teachers of different ages and length of teaching service, and at different primary schools, found in either an urban or rural area. Therefore the sample consisted of teachers at the beginning of their career (1-2 years of teaching experience), teachers who were close to becoming eligible for promotion (12-13 years) and teachers who were about to be promoted (17-18 years). Nine country and nine city schools were chosen at random in the city of Larnaca and its outskirts. Interviews outside this area were not conducted because of practical constraints. Half of the interviews in each group of teachers were conducted

in city schools and the other half in country schools. Only one teacher was interviewed in each school. The number of teachers in each group was six to allow a comparison of the views of the teachers in each group.

3.5 Interview data analysis

In this section I discuss how I analysed interview data. The first stage was the coding of the data. Coding is about identifying the concepts to which the interviewees refer to. According to Bryman (2001) “concepts are the building blocks of theory and represent the points around which social research is conducted” (p. 65). As he explains further each concept “represents a label that we give to elements of the social world that seem to have common features and that strike us as significant” (p. 65). Examples of concepts mentioned by the same author are: social class, culture, and academic achievement. During coding “data are broken down into discrete parts” (Strauss and Corbin, 1998, p. 102). This is necessary “because to uncover, name, and develop concepts, we must open up the text and expose the thoughts, ideas, and meanings contained therein” (Strauss and Corbin, 1998, p. 102). In order to stress the importance of coding for the analysis of qualitative data Strauss and Corbin (1998) argue that “without this first analytic step, the rest of the analysis and the communication that follows could not occur” (p. 102).

The codes, which I have identified in the analysis of the interviews, refer to the main aims of this study. After coding I created categories of concepts with similar meanings. I also defined subcategories where I identified concepts which were more closely related. During the analysis of the interviews various categories and

subcategories were created for each aim of this study. The codes, subcategories and categories for each aim of this study are presented in diagrams 1, 2, 3 and 4.

DIAGRAM 1
Understanding of professional development

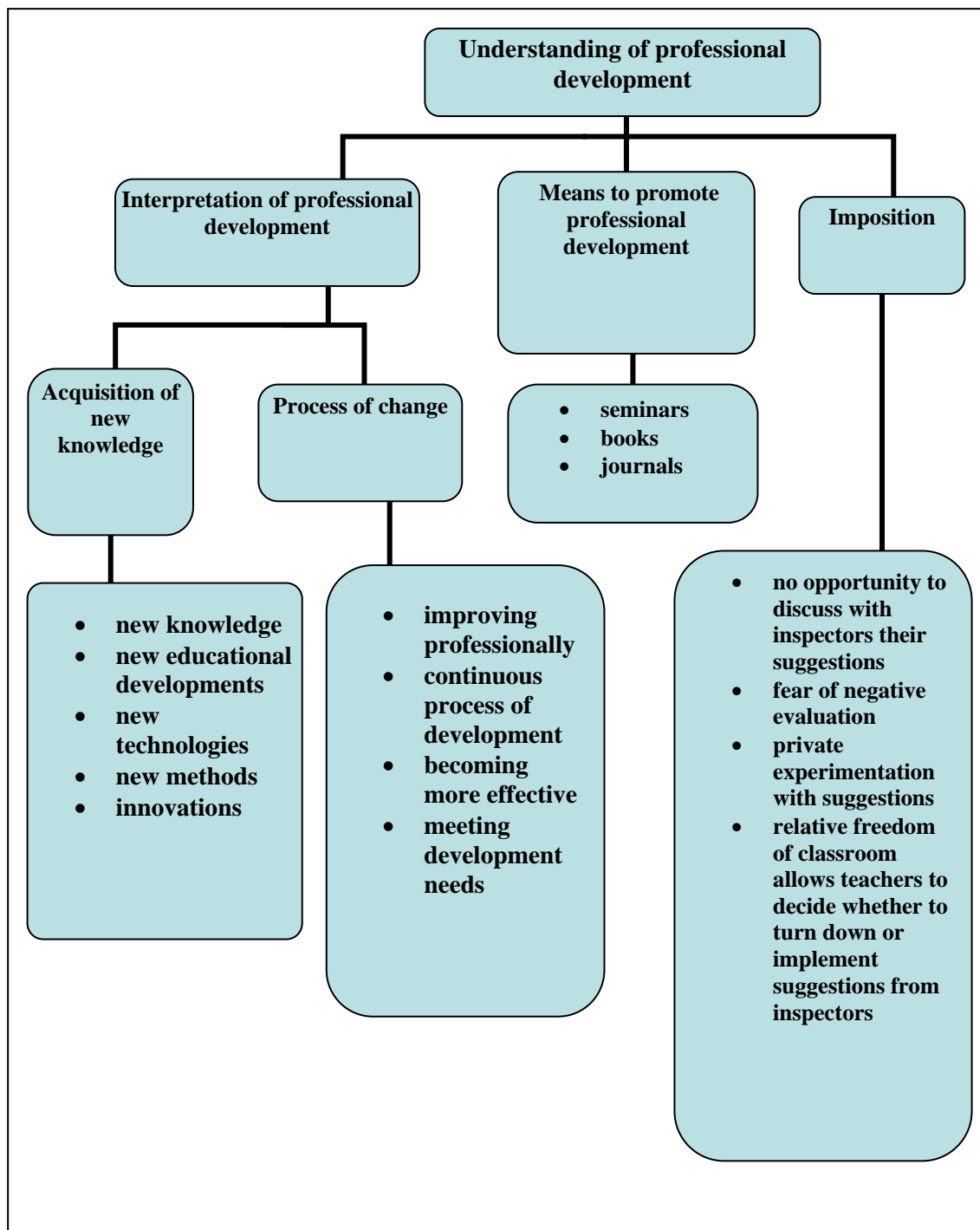


DIAGRAM 2: ENGAGEMENT WITH REFLECTION

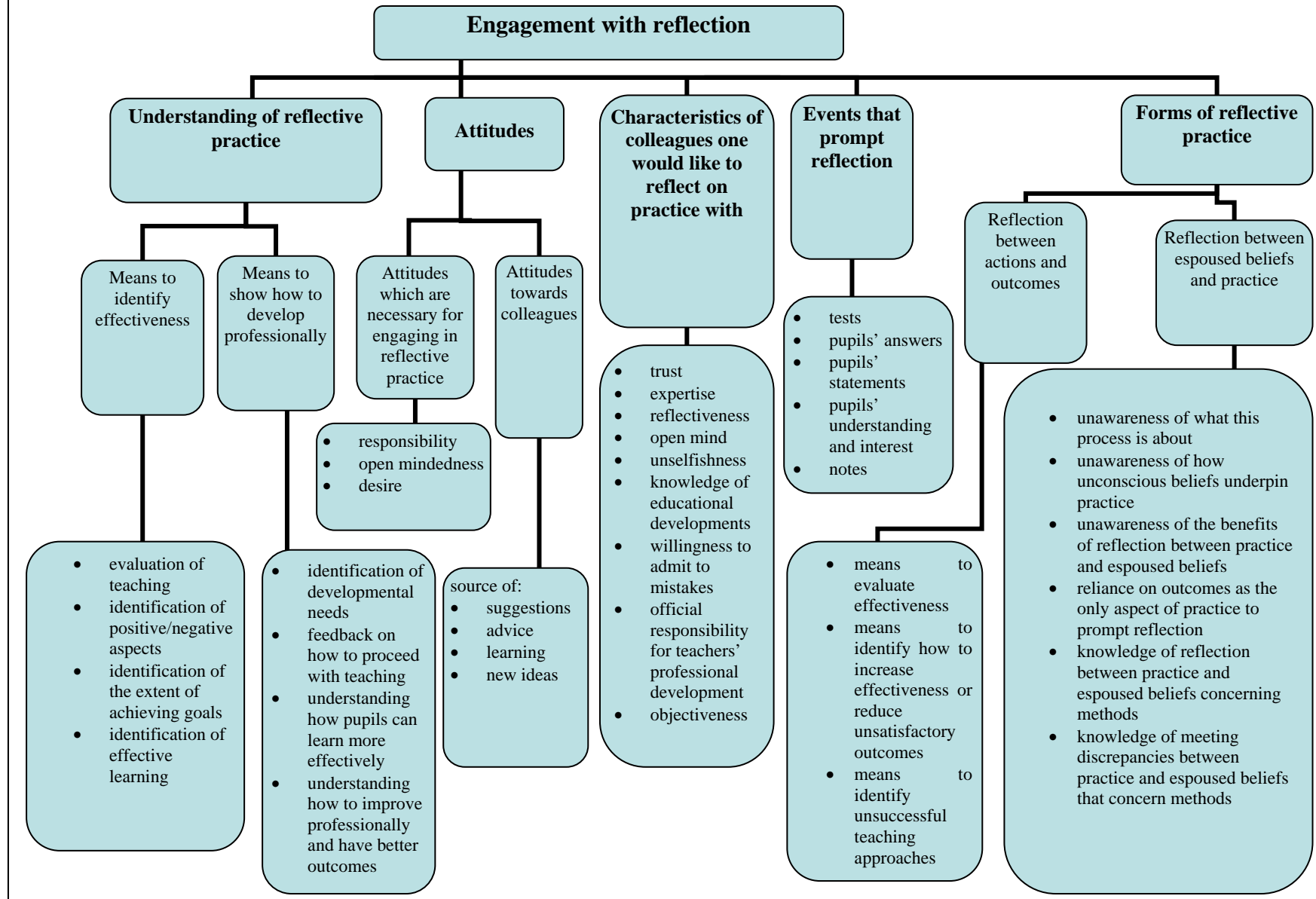


DIAGRAM 3: CHANGES IN PRACTICE

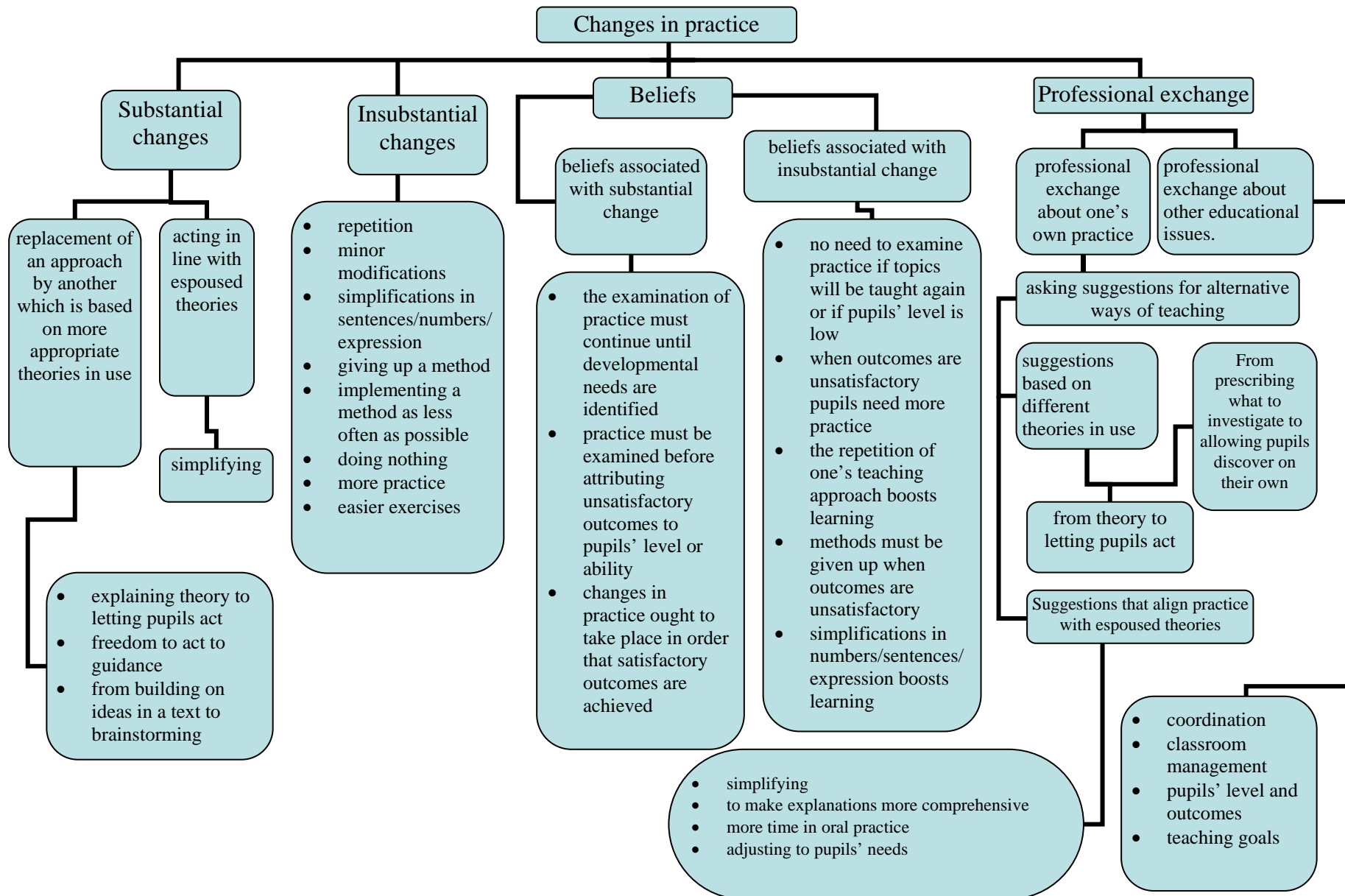
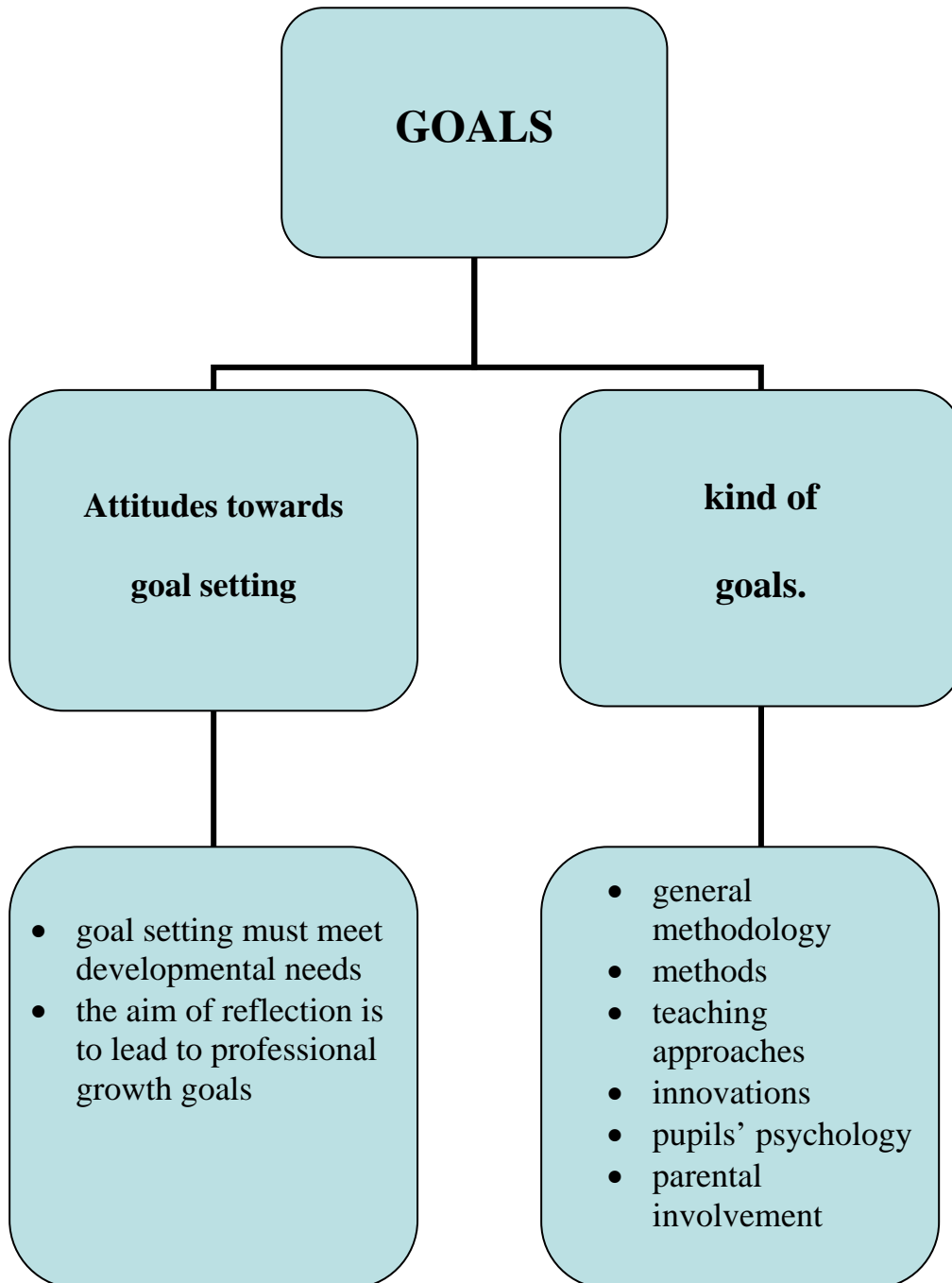


DIAGRAM 4

GOALS



After forming categories and subcategories I used my common sense and professional experience in Cypriot public primary schools in order to interpret the data of each category or subcategory. I also used professional development research literature in order to relate my findings to concepts and discussions in this discipline. Finally I formulated hypotheses and analytical generalizations about the above educationalists' interpretations.

3.6 Credibility

Credibility is a criterion that refers to the degree to which qualitative research findings reflect the meanings and interpretations of the research participants. It demands not only that research is professionally carried out, but also that research findings are submitted to research participants for confirmation (Bryman, 2001). It is a criterion which has been developed by Lincoln and Guba (1985) as an alternative to the criterion of internal validity. Internal validity is used to evaluate quantitative research. The criterion of internal validity cannot be applied to qualitative research. The reason is that it is about the accuracy of research findings (Cohen et al., 2000). Accuracy is important in quantitative research because it aims to discover general causal laws that drive social phenomena. Consequently there can only be one correct measurement about a certain topic. In qualitative research though there is no point in checking whether the content of the findings is correct because qualitative research aims to explore people's meanings and interpretations which can differ. Since there cannot be correct or incorrect findings in qualitative research, I would argue that

qualitative researchers must focus on checking whether their interpretations are in line with those of the research participants.

In order to enhance the credibility of my research findings I used respondent validation. This is suggested by Lincoln and Guba (1985) and Guba and Lincoln (1994). Respondent validation is a process whereby researchers provide research participants with an account of their research findings in order to seek corroboration or otherwise of this account (Bryman, 2001). Consequently I went back to the people, I had interviewed, with my findings and asked for their confirmation. Respondent validation however, has certain disadvantages. One disadvantage of respondent validation is that research participants may not evaluate research findings according to their true opinions either due to feeling defensive (Bryman, 2001) or due to developing a close relationship with the researcher (Bloor, 1997). Respondent validation may also not work because research respondents may not understand social scientific analyses (Bryman, 2001). Another disadvantage is that researchers engage in new forms of interpretations. By using respondent validation they interpret research participants' evaluations of the research findings.

Despite the above disadvantages, I used respondent validation because it offered me the opportunity to identify topics where my interpretations were remote from what the research participants aimed to say. Consequently I had an opportunity to clarify my interpretations. In addition the above disadvantages are mainly related to the close interaction between researcher and research participants and to the fact that further interpretations have to be made by either the researchers or the research participants. The interpretations of findings, by the use of one's common sense and the close

interaction between researcher and research participants however, are characteristics of qualitative methods. Consequently any method, I could have used in order to enhance the credibility of this study, might have similar disadvantages as the above. Consequently it was pointless to either try to eliminate them or look for methods to enhance credibility that are free of them. What I could do however, was to be aware of these disadvantages and to use this method cautiously.

Another method, which is suggested by Lincoln and Guba (1985) and Guba and Lincoln (1994) in order to enhance credibility, is triangulation. Triangulation “entails using more than one method or source of data in the study of social phenomena” (Bryman, 2001, p. 274). In this study a way to achieve triangulation could be the study of the Cypriot primary school teachers’ reflective journals. I have already explained why I have not used this method in this study. Consequently I could not use triangulation.

3.7 Ethical standards

Researchers, who want to contribute to the body of knowledge in any field, must meet ethical standards concerning professional practice, their relationship with other researchers and research respondents.

Concerning my research practice, I have already shown that the reason for the choice of the research methodology, I used, was that it is required by my research objectives and not by other reasons. The choice of relevant research methodology is one ethical issue (Sarantakos, 1998). Other ethical issues, which I met, referred to accuracy in data gathering and processing (Sarantakos, 1998; Wellington, 2000) and in reporting findings without fabricating or falsifying data (Sarantakos, 1998; Neuman, 2000). Appropriate interpretation of data (e.g. according to general methodological standards) is also part of ethical research practice. I interpreted data using my common sense and by being based on the data and not on personal beliefs or presuppositions. Then I developed hypotheses and generalizations about the behaviour and interpretations of the interviewees. In addition I related my findings to concepts in the disciplines of reflective practice and professional development.

In order to be ethical towards other researchers I avoided plagiarism and misuse of authority of role (Sarantakos, 1998). I did not criticize others' work guided by bias or other interests. In order to be ethical towards the research respondents I properly identified myself to them. I showed care for their welfare by avoiding questions that might cause them embarrassment, guilt, discomfort, hazards or risks (Sarantakos, 1998). I respected the respondents' right to free and informed consent (Sarantakos, 1998; Cohen et al., 2000; Kent, 2000; Neuman, 2000) by not forcing anyone into participating and by fully informing them of the nature and goals of the research. In addition I obtained further consent as to how data from interview recordings should be used (Silverman, 2001). Finally, I respected the respondents' privacy (Sarantakos, 1998; Kent, 2000; Neuman, 2000) by allowing them not to answer questions they did

not wish and I kept the information I gathered confidential and anonymous (Sarantakos, 1998; Kent, 2000; Cohen et al, 2000; Neuman, 2000).

3.8 Strengths and limitations

In this section I discuss the strengths and limitations of the research design.

One strength is that the choice of research methodology was made after I had examined in which of the paradigms, that underlie the two main research methodologies which are currently used in research (qualitative and quantitative), the kind of questions of this research design best fit. My research questions are exploratory. Their aim is to find out how the Cypriot primary school teachers interpret professional development and reflective practice as well as the meaning they attach to their own reflections and changes they claim they bring about in practice as an outcome of reflection. In order to answer these questions the stance I took towards reality, human beings, the nature of science and the purpose of research was in line with the interpretivistic paradigm which underpins qualitative research. The reality I looked for was in people's minds (meanings, interpretations) and it was created through teachers' interactions during reflecting on practice. The purpose of my research was the understanding of the research participants' meanings. In order to achieve this understanding I used my common sense which I consider the basis of science.

I chose which qualitative method to use after examining how this method could underpin the collection of the kind of data my research questions demanded. I chose

the interview method because my research questions demanded that research participants discuss in detail their interpretations. Interviews were semi-structured so as to ask follow-up questions concerning individual responses and ask interviewees to illustrate their opinions. The analysis of data concerning these illustrations and the teachers' opinions allowed me to make comparisons between espoused beliefs (reported beliefs) and actions.

The way the collection and interpretation of data took place is another factor that makes this research rigorous and systematic. Data was collected through interviews. Interviews provided in-depth information about the aims of this study. The interviews were recorded and transcribed. This contributed to the richness of the data because in this way no data was lost. In addition it contributed to the accuracy of the data because the transcription of the interviews provided the exact responses of the interviewees. Furthermore, in order to enhance the credibility of the findings, the interview data was submitted to the respondents for confirmation. In order to interpret data and draw conclusions I tried not to let personal biases and presuppositions get in the way, but I relied strictly on the data.

The adequate description of the research procedure, which was followed in order to conduct this study, allows its findings to be dependable. Dependability is a criterion which has been developed by Lincoln and Guba (1985) and Guba and Lincoln (1994) in order to evaluate qualitative research. According to this criterion findings are dependable if they are the outcome of a properly carried out scientific process. Furthermore they add that researchers must provide records of how they conducted their research so that readers of research can evaluate whether research has been professionally carried out. In this study I provided adequate information about:

- a) the choice of research methodology and research method;
- b) sample selection;
- c) data analysis.

Consequently the readers of this research have enough data to decide whether it has been properly carried out and whether its findings are dependable.

The rich data of this study will allow the readers to decide whether its findings can be transferred to other contexts. Lincoln and Guba (1985) and Guba and Lincoln (1994) propose that since qualitative findings cannot be generalized, thick descriptions of data should be provided, so that readers or other researches can assess whether findings can be transferred to other contexts. This is the criterion of transferability. The in-depth information, I collected in this study through interviews, allowed thick descriptions to be provided about the Cypriot primary school teachers' engagement with reflective practice. In this way the readers of this study will have sufficient data, including contextual information, in order to judge whether the findings of this study are relevant to their own situation.

An additional strength of this research is that high ethical standards were met concerning my relationship with other researchers (such as avoidance of plagiarism) and research respondents (such as respect for their free and informed consent and care for their welfare).

One limitation is the lack of objectivity. Interviews allowed me to get in touch with people's meanings and interpretations. On the one hand interviewees might not have provided their true meanings due to fear of breach of confidentiality or due to my presence as a teacher; despite my effort not to influence their responses in any way or

my assurance that their responses would be kept confidential. On the other hand, in order to interpret these interpretations and draw conclusions, I used my common sense. Bryman (2001) names this process a double interpretation. Furthermore, I related my findings to concepts and discussions in the discipline of professional development. This process might have been affected by personal views I have developed about this particular discipline. That is why Bryman (2001) claims that this process is a third form of interpretation. Due to the above processes of interpretation, how I interpreted data and how I related my findings to concepts in the professional development literature might be different from how other researchers would interpret the same data if they had engaged in this study.

Some qualitative researchers such as Lincoln and Guba (1985), Guba and Lincoln (1994) and Miles and Huberman (1994) propose that establishing confirmability can reduce subjectivity in qualitative research. Confirmability demands that researchers do not overtly allow personal values or biases to affect the way they conduct research and interpret their research findings. I would argue that I may have established confirmability in my research only to a certain degree. For example during interviews I avoided to ask leading questions or seek answers which are in line with preconceived ideas I had. I remained neutral towards what respondents said (Denscombe, 1998). In addition I frequently summarized what they said and asked for confirmation (Denscombe, 1998). Whether research participants however, have been affected by my presence, is a possibility I could not eliminate. I have also tried to base my interpretations strictly on the data and not on personal beliefs or presuppositions. I cannot guarantee however, that I have managed to completely avoid the effect of these beliefs or presuppositions on how I interpreted findings. This is an issue that readers of research can decide.

The translation of the interviewees' responses from Greek to English might fail to provide the exact meaning of the original responses. I tried to translate the interviewees' responses in a way which could be as close as possible to the meaning of the original responses. Despite this, I recognize that sometimes words may not have exactly the same meaning or impact when translated into another language.

Summary of chapter

In this chapter I have explained why the choice of a research method must be made after identifying in which paradigm the research questions, one aims to investigate, can be addressed. I have suggested that the research questions, I address in this study, are exploratory and that they demand the collection of the research participants' interpretations and meanings. In addition I have argued that the stance I took towards reality, human beings, the nature of science and the purpose of social research, while conducting this study, was in line with the stance, which is adopted towards these theoretical elements by interpretivism. I have explained why the semi-structured interview is the most appropriate method to use in the study. I have also explained why reflective journals could not be used. I have discussed how the sample was selected and how data was analysed. I have argued that the credibility of this study was enhanced by the use of respondent validation. Finally I discussed the ethical standards that were met, when this study took place, as well as the strengths and limitations of the methodology and research design.

CHAPTER 4: FINDINGS

In this chapter I present findings from the analysis of the teachers' interviews. The findings are organized in sections which respond to the four aims of this study:

- 1) to explore the Cypriot primary school teachers' understanding of professional development;
- 2) to examine ways in which they report their engagement in reflective practice and the nature of reflective practice;
- 3) to identify factors which are associated with the changes Cypriot primary school teachers' bring about in practice as an outcome of reflection;
- 4) to examine whether the teachers set goals for professional development as an outcome of reflective practice.

4.1 UNDERSTANDING OF PROFESSIONAL DEVELOPMENT

After analysing the Cypriot primary school teachers' interviews a range of interpretations of professional development was revealed. Within these interpretations two dominant definitions emerged. The teachers conceptualized professional development as the acquisition of new knowledge or as a process of change. Further analysis of the interviews revealed that all the Cypriot primary school teachers of this study view the Ministry of Education and Culture (MOEC), and to a lesser extent other official authorities, as the source of this new knowledge. The majority of the teachers did not refer to reflective practice as a source of this new knowledge. Another finding that emerged was that the promotion of the teachers'

professional development by the MOEC through its inspectors may not benefit teachers as much as it should.

4.1.1 Interpretations of professional development

When asked to explain their understanding of professional development the Cypriot primary school teachers responded with a range of terms including: new knowledge about teaching; new developments in education; new technologies; new teaching methods; innovations; continuous process of development; and improving professionally.

The terms most used were those that referred to a process of learning new educational knowledge (with eleven teachers using this definition : A1, A2, A3, A4, B2, B4, B5, C2, C3, C5, C6) and those that referred to a process of change and development (with six teachers using this definition : A5, A6, B1, B3, B6, C4). The use of these terms is illustrated by the three teachers quoted below:

“Teachers must keep learning about new developments concerning teaching in order to promote their professional development.”

(Teacher A3, 17 years experience)

“Teachers must find various ways of developing professionally. Otherwise they will keep repeating themselves.”

(Teacher A6, 18 years experience)

“Teachers who aim to develop professionally must get informed about new technologies and new methods that can be used in teaching.”

(Teacher C5, 1 year experience)

Further examples are to be found in Appendix B (part 1). These views suggest that the teachers conceptualized professional development with keeping up to date and maintaining a level of efficiency.

All the Cypriot primary school teachers consider the seminars of the Pedagogical Institute as the main means of promoting their professional development. Typical responses are presented below. The rest of these responses are to be found in the Appendix B (part 2).

“ I usually try to find out whether seminars by the Pedagogical Institute take place in Larnaca, the town I live. If I find that there are seminars, in which I am interested in, I attend them.”

(Teacher A2, 18 years experience)

“ In Cyprus opportunities for professional development are usually offered by the Pedagogical Institute. I try to attend at least one series of seminars every year.”

(Teacher B1, 13 years experience)

“ Every year I use to attend one or two series of seminars by the Pedagogical Institute.”

(Teacher A3, 17 years experience)

The Pedagogical Institute, which offers the above seminars, is a tertiary level institute. It mainly uses seminars in order to promote the professional development of both primary and secondary school teachers. Since the Pedagogical Institute belongs to the Ministry of Education and Culture (MOEC) the knowledge it promotes is in line with the educational policy of the MOEC. Consequently the Cypriot primary school teachers must feel that by attending these seminars they get in touch with knowledge which is approved by the MOEC, up to date, and educationally correct. The fact that all the Cypriot primary school teachers mentioned the seminars of the Pedagogical Institute as a means of promoting professional development, reveals that they consider the MOEC as the main official authority for the promotion of professional development.

Other official authorities of transmitting educational knowledge, which were mentioned by a large number of Cypriot primary school teachers, were authors of educational books or of articles in journals. Typical responses are presented below. The rest of these responses can be found in Appendix B (part 2).

“I have subscribed to a journal about cooperation and hence I read it regularly. Sometimes I may read books too.”

(Teacher A2, 18 years experience)

“ Whenever I come across educational journals or books at school, I read them.”

(Teacher B2, 13 years experience)

“ I try to read educational journals or books whenever I have time.”

(Teacher C4, 2 years experience)

The Cypriot primary school teachers must feel that knowledge, which has been accepted as worthy to be published in a book or journal, is valued by educationalists and consequently it can aid their professional development. These findings show that for these teachers professional development, whether interpreted as change or as the receipt of new knowledge, is linked with knowledge which is transmitted through official authorities.

The association of the term professional development with knowledge from an official authority may explain why one of the teachers interviewed (teacher C1) claimed that professional development is unnecessary. This teacher's response is presented below:

“After graduating from the University teachers are fully qualified in order to teach. I do not believe they need any further education...”

(Teacher C1, 1 year experience)

As this teacher claims, she has just graduated and hence she is fully qualified to teach. This shows that she must feel that she does not need to learn more at the moment because she has received the current educational knowledge from a recognized official authority.

Teachers B1 and B6 were the only teachers who presented a more comprehensive understanding of the term. In addition to seminars, journals and books, they mentioned reflective practice (teacher B1) and cooperation with colleagues (teacher B6) as means of professional development. Their responses are provided below:

“Professional development is a process of becoming more effective in order to achieve better outcomes. One way to do this is by reflecting on your own practice in order to identify your developmental needs and think how you can meet them. Other ways are to attend seminars, read journals or attend M.A. courses to enrich your knowledge where you have developmental needs.”

(Teacher B1, 13 years experience)

“It is a process of improving professionally through various means such as seminars, M.A. courses, cooperation with colleagues, journals etc...”

(Teacher B6, 13 years experience)

Reflective practice and cooperation with colleagues are a means of professional development which are not necessarily related to an official authority. These means lead to the development of educational knowledge which is the outcome of the critical examination of teachers’ practice. The fact that teachers B1 and B6 are graduates of master’s courses, in which reference to professional development has been made, may be a reason that contributed to the formation of their interpretations.

In this subsection findings have been presented about the Cypriot primary school teachers’ interpretations of professional development. Although the aim of this study is to examine how Cypriot primary school teachers promote their professional development through reflection, their interpretations of professional development did

not include reflective practice. Instead professional development was associated with the transmission of knowledge from official authorities, mainly the MOEC.

4.1.2 Imposition and professional development

The Cypriot primary school teachers' preoccupation with the MOEC, as a source of up to date and correct knowledge, makes teachers willing to experiment with inspectors' suggestions. Despite this however, the inspectors' imposed demands may limit the promotion of professional development through reflective practice. A reason for this is lack of joint engagement with inspectors in reflective dialogues about these demands, mainly due to the involvement of inspectors with the evaluation of the teachers. Another reason is that inspectors may not be willing to discuss views, which might be opposite to those that they impose on teachers. All the teachers with an experience of 12-13 years and 17-18 years and two teachers with an experience of 1-2 years (C3, C6) claimed that they would not express their disagreement to the inspector because this might lead to a negative evaluation. In order to deal with this situation however, they experiment on their own with the inspectors' suggestions in the relative freedom of their classroom. After this they can choose which suggestions to implement. Responses which illustrate these views are presented below. The rest of these responses are provided in Appendix B (part 20).

“I believe teachers must listen to what their superiors say and that they must not argue with them. Then they must implement only whatever they believe

can promote effective learning. I used to listen to what my superiors said. In my class however, I implement only whatever promotes effective learning.”

(Teacher A3, 17 years experience)

“Teachers must experiment with what is imposed. Then they must reflect on whether it promotes effective learning. If it does not, they must decide whether to adjust it or abandon it. They do not have to tell their superiors though because they may not like it...”

(Teacher B4, 12 years experience)

Summary of section

In this section I have presented findings which reveal that the Cypriot primary school teachers have a positive attitude towards professional development and that they associate this term with knowledge from an official authority. In spite of conceptualizing professional development as a process of keeping up to date and maintaining efficiency, reflection on practice either on one's own or with others, was not included in the majority of the teachers' responses. Despite their preoccupation with the Ministry of Education and Culture (MOEC), as a source of up to date and correct knowledge, the Cypriot primary school teachers reported that the promotion of their professional development by the MOEC, through its inspectors, may not be that effective. This is due to lack of joint engagement in reflective dialogues with inspectors about the effectiveness of their suggestions. Reasons for this are the involvement of inspectors with teachers' evaluation and the inspectors' unwillingness to engage in such dialogues with the teachers.

4.2 ENGAGEMENT WITH REFLECTIVE PRACTICE

Despite not mentioning reflective practice as a means of promoting professional development, when the Cypriot primary school teachers were specifically asked about their views towards this issue, they held a positive attitude towards reflection which takes place either on one's own or with others. After analysing the interview data I found that the need for trust of teachers with an experience of 12-18 years restricts the promotion of professional development through reflective practice with colleagues. Further analysis revealed that there is agreement between the Cypriot primary school teachers' views and those attitudes identified in the literature review as necessary for engaging in reflective practice. These attitudes were the desire to develop, responsibility and open mindedness. Another finding that emerged was that the Cypriot primary school teachers systematically promote their professional development through reflective practice. The times, at which the teachers' reflections take place, were also revealed from the analysis. An additional finding was the importance that Cypriot primary school teachers attach to the examination of the outcomes of their practice. It was revealed that the aspect of practice, which most prompted the teachers to reflect, is outcomes. As a result, the main form of reflection on practice, which is used by the Cypriot primary school teachers, is reflection between actions (practice) and outcomes. Reflection between espoused beliefs and actions is either ignored or limited to espoused beliefs about teaching methods.

4.2.1 Reflective practice

The view of reflective practice to emerge from the analysis of the interviews was positive. Reflective practice is considered by the Cypriot primary school teachers as beneficial and a means to identify the extent of their effectiveness. They also identified its use in helping them discover what steps to take in order to develop professionally. Typical positive responses are presented below. The rest of the responses can be found in Appendix B (part 3).

“Reflective practice is a means to evaluate your teaching and identify developmental needs that must be met...”

(Teacher A4, 18 years experience)

“You identify where you succeeded and where you have not.”

(Teacher B3, 13 years experience)

“Reflective practice is an effort of evaluating one’s practice in order to see if one achieves the goals one sets every day.”

(Teacher B6, 13 years experience)

“Reflective practice is necessary so that teachers will know whether their teaching leads to effective learning.”

(Teacher C6, 1 year experience)

“If you do not reflect on your practice, you cannot develop.”

(Teacher A2, 18 years experience)

“Reflective practice gives you feedback on how to proceed with your teaching.”

(Teacher B5, 13 years experience)

“Teachers must reflect on practice so as to know how they can improve and have better outcomes.”

(Teacher C5, 1 year experience)

The Cypriot primary school teachers value their colleagues’ contribution to reflection as a source of useful suggestions and learning. Some responses are provided below. The rest of these responses can be found in Appendix B (part 4).

“I do not know everything. I can learn a lot from colleagues.”

(Teacher A1, 18 years experience)

“... Other colleagues, whether younger or older can give you useful suggestions.”

(Teacher B6, 13 years experience)

“It is important to reflect on practice with other colleagues because I am newly

appointed and hence I can learn...”

(Teacher C3, 1 year experience)

The above findings are a step closer to my aim of finding out more about how Cypriot primary school teachers promote professional development through reflective practice. This is because their positive views imply that the teachers are likely to systematically engage in reflective practice.

4.2.2 Trust

Half of the teachers with an experience of 17-18 years (teachers A2, A3, A4) and four of the teachers with an experience of 11-12 years (teachers B2, B3, B4, B5) stressed that, although reflection on practice with colleagues is important, it demands trust. In addition lack of trust was the reason why four of the above teachers (A3, B2, B4, B5) did not engage in professional exchange with their colleagues. Typical responses which reveal the teachers’ need for trust are presented below. The rest of these responses can be found in Appendix B (part 4.c).

“Reflecting on practice with colleagues is difficult because it demands trust. When someone else points to our developmental needs we usually become defensive. Consequently we may feel resentful towards colleagues who will surface our developmental needs.”

(Teacher A2, 18 years experience)

“It is not easy to reflect on practice with other colleagues unless you trust them. In this case they may help you. I do not feel that I can trust my colleagues, so I work alone.”

(Teacher A3, 17 years experience)

“Reflection on practice with colleagues can be helpful, but it demands that these colleagues be people you trust and who know you well. I do not trust my colleagues with my developmental needs so I reflect on practice alone.”

(Teacher B2, 13 years experience)

“Colleagues may help you identify more developmental needs than one might identify on one’s own; but you must trust this person. I do not discuss my practice with colleagues because I have not found yet colleagues I can trust”

(Teacher B4, 12 years experience)

The teachers’ need for trust emerged again when they were asked to mention characteristics that must be owned by the colleagues they would like to reflect on practice with. The majority of the teachers with an experience of 12-18 years claimed that trust was an important characteristic. This is shown in Table 1. In this table the characteristics, which are presented, are codes I created when I analysed the teachers’ responses to the question: “What are the characteristics of colleagues you would like to reflect on practice with?” These teachers interpreted trust as the belief that their colleagues will not discuss their developmental needs in a negative way. The fact that trust was rated higher than expertise and effectiveness by these teachers, as it is shown in Table 1, underlies the importance they attach to this characteristic.

TABLE 1

**Characteristics of colleagues Cypriot primary school teachers
would like to reflect on practice with**

Characteristics	Teachers/Years of teaching experience		
	1-2 years	12-13 years	17-18 years
Trust	C2,C3	B2, B3, B4, B5, B6	A1, A2, A3, A4, A6
Expertise and effectiveness	C1, C2, C3, C4, C5, C6	B1, B3, B4, B5	A2, A3, A4
Expertise in a subject	C5	-	A1
Reflectiveness	C2, C6	-	A1, A5, A6
Open-mindedness	C3, C4	B6	A1, A5, A6
Lack of selfishness	C4	B1, B6	A4, A5, A6
Knowledge of educational developments	C1, C2		A6
Willingness to admit to mistakes	-	-	A1
Organizational position with responsibility for teachers' professional development	-	-	A2
Objectiveness	-	B4	-
Willingness to reflect with others	C6	-	

In contrast to the teachers with 12-18 years of experience, for the newly appointed teachers (in their first two years of teaching) expertise and effectiveness were the primary factors that would determine with whom they could discuss practice. Trust did not appear to be that important to them, as it was mentioned only by two teachers (C2,C3). The reason for this may be the fact that their limited experience makes them feel comfortable to reveal developmental needs. Some typical responses are presented below:

“I do not worry whether colleagues... will discuss about me in an unfavourable way... I am newly appointed. I am expected to have developmental needs...”

(Teacher C1, 1 year experience)

“I do not need to trust colleagues, with whom I discuss practice. I am newly appointed. I am about to make mistakes.”

(Teacher C4, 2 years experience)

“I do not care whether my colleagues will discuss my developmental needs. All I care about is whether they can help me improve professionally.”

(Teacher C5, 1 year experience)

“I do not need to trust that my colleagues will not tell others about my developmental needs. I am just beginning to teach. I have a lot to learn. All I need to feel sure about is that my colleagues will advise me wisely.”

(Teacher C6, 1 year experience)

4.2.3 Attitudes

The Cypriot primary school teachers are in agreement that having attitudes such as the desire to develop professionally; responsibility for the outcomes of one's teaching; and open mindedness are of outmost importance for engaging in reflective practice. All the teachers mentioned that the desire to develop is a major motive for reflecting on practice. Some typical responses were the following. The rest of these responses can be found in Appendix B (part 19.a).

“The desire to develop is the motive to become more effective.”

(Teacher A2, 18 years experience)

“You must have the desire to develop if you are going to develop.”

(Teacher B5, 13 years experience)

“The desire to develop is of primary importance. Without it you do not develop.”

(Teacher C4, 2 years experience)

All the teachers claimed that responsibility is a driver to reflect on practice in order to identify the areas in which one needs to develop professionally so as to achieve better outcomes. Some typical responses are presented below. The rest of these responses can be found in Appendix B (part 19.b).

“If you do not feel responsible, you will not examine your practice in order to identify the areas where you need to develop.”

(Teacher A5, 18 years experience)

“If you feel responsible you reflect on practice in order to see if your pupils have learned effectively.”

(Teacher B4, 12 years experience)

“If teachers feel responsible for the outcomes of their teaching, then they will examine these outcomes in order to see how they must improve their teaching and in this way help their pupils learn more effectively.”

(Teacher C2, 2 years experience)

Furthermore all the teachers reported that an open mind is necessary for teachers, who aim to develop professionally, because it makes them receptive to others' ideas. Teacher B3 claimed that an open mind is a driver for professional exchange. Teachers A3, A4, A6, C3 and C5 pointed that being open minded demands that teachers examine critically the suggestions they are given. Some typical responses were the following. The rest of these responses can be found in Appendix B (part 19.c).

“You must have an open mind, but you must be critical. Do not accept whatever you are told. Examine the suggestions you are given critically.”

(Teacher A3, 18 years experience)

“We must be open minded. No one knows everything. Besides, knowledge is continuously developing; so there is always something new to learn. But you must not accept others' suggestions uncritically. You must adjust these suggestions to your own teaching style.”

(Teacher A4, 18 years experience)

“Without an open mind you do not consider other ideas and you keep repeating yourself again and again.”

(Teacher B6, 13 years experience)

4.2.4 When Cypriot primary school teachers engage in reflective practice

After analysing the interview data I found when the Cypriot primary school teachers engage in reflective practice. The teachers claimed to systematically reflect on their practice after a lesson finishes (provided they have time); at home when they review their school day; and at the end of the school year. Typical responses were the following. The rest of these responses can be found in Appendix B (part 5.1).

“Everyday I reflect on the lessons I did in order to see whether the goals I have set were achieved. I also reflect on whether the goals I have set for the year were achieved at the end of the year.”

(Teacher A3, 17 years experience)

“I reflect on practice everyday and at the end of the semester or the year in order to see whether my teaching has led to effective learning.”

(Teacher B1, 13 years experience)

“I reflect on practice everyday, after a lesson finishes or at home when I plan the next lesson, in order to see whether my goals have been achieved.”

(Teacher B3, 13 years experience)

Although not the focus of a particular question, some teachers’ responses revealed that reflection on practice may also take place in unconscious and unplanned ways (teachers A1, A2, B5, C5) as well as in action (teachers A1, A2, A4, A6). Typical responses are presented below. The rest of the teachers’ responses can be found in Appendix B (parts 5.2 and 5.3)

“Unconsciously we always reflect on our practice...”

(Teacher B5, 13 years experience)

“I reflect on practice everyday without saying to myself that now it is time to evaluate myself...”

(Teacher C5, 1 year experience)

“Even during teaching I think: Is my teaching leading to effective outcomes? Many times I even change approaches during teaching. For example I say: Children stop this! Let us start again...”

(Teacher A4, 18 years experience)

“I reflect on practice everyday by evaluating pupils’ reactions during the lesson (e.g. their understanding and interest) and their written work.”

(Teacher A6, 18 years experience)

4.2.5 Aspects of practice that prompt reflection

The events or aspects of the Cypriot primary school teachers’ work that prompt their reflections were wide ranging. Nevertheless these aspects in the main related to the outcomes of their practice. These aspects are shown in Table 2. Table 2 presents codes which I created after analysing teachers’ responses to the question: “What aspects or events of your work usually prompt you to reflect on your practice?” Table 2 shows that all the Cypriot primary school teachers were prompted to reflect on

practice after conducting tests. Some responses concerning tests are presented below.

The rest of these responses can be found in Appendix B (part 6.1).

“A test can show you the areas in which the pupils have succeeded to learn as well as where they have failed to learn. In the latter case you must examine your teaching.”

(Teacher A1, 18 years experience)

“A test gives you an overall picture of you outcomes. Then you can know whether you need to examine your teaching.”

(Teacher A6, 18 years experience)

“Tests show you where your pupils face difficulties. As a result you can reflect on how to help pupils learn more effectively.”

(Teacher B4, 12 years experience)

“Tests show which goals have been fulfilled. In the case where certain goals have not been fulfilled you will start reflecting on your teaching.”

(Teacher C2, 2 years experience)

The test is a written form of assessment which shows the pupils' level of learning. Consequently the teachers can become aware of the areas in which pupils have not learnt effectively. Then they will know which aspects of their teaching need to be examined in order to maximize pupils' learning.

TABLE 2**Aspects/events that prompt reflection**

Aspects/events	Teachers / Years of teaching experience		
	1-2 years	12-13 years	17-18 years
Tests	All	All	All
Pupils' answers to questions that review what has been taught at the end of lessons	C1, C3,C5	B1, B2, B5	A2, A4, A6
Notes about one's teaching	C6	B3, B5	A2, A4
Pupils' statements			A1
Pupils' understanding and interest during teaching	C5, C6	B1, B3, B4, B5, B6	

Table 2 also shows that pupils' answers to questions prompt half of the teachers in each group to reflect on practice. These are questions that teachers ask at the end of their lessons and which focus on the main aims of the lesson. Some responses are presented below. The rest of these teachers' responses can be found in Appendix B (part 6.2).

“At the end of a lesson I ask some questions which can show me if the pupils have learnt what I expect. In this way I have an indication of the level of their learning.”

(Teacher A4, 18 years experience)

“When I finish a lesson I ask pupils questions like: What have you learnt today about ... ?”

(Teacher B5, 13 years experience)

“Before a lesson finishes I used to ask questions in order to see what pupils have learnt. E.g. Who can tell me the factors which we have identified as contributing to....? Can you remind me what we have discussed about ...?”

(Teacher C3, 1 year experience)

This is a more informal form of assessment of teachers’ teaching process. Nevertheless it provides them with information directly from their pupils about the effectiveness of their teaching and the level of their pupils’ learning. With this information teachers can start reflecting on aspects of their teaching that might have not led to satisfactory outcomes.

Another aspect of teaching which has been revealed to be used by the majority of the teachers with an experience of 12-13 years is pupils’ understanding and interest during the lesson. Some responses are provided below. The rest of the responses are presented in Appendix B (part 6.3).

“If pupils do not seem to understand what I am teaching... I am given a sign that I must examine my practice.”

(Teacher B1, 13 years experience)

“While I am teaching I try to observe whether the pupils understand what I teach. If they seem to have difficulties then I will have to examine my teaching.”

(Teacher B3, 13 years experience)

“Pupils’ interest and understanding during a lesson can show me whether my teaching helps pupils learn. If pupils are uninterested or seem puzzled, then I reconsider my teaching.”

(Teacher B5, 13 years experience)

Paying attention to pupils’ interest and understanding during teaching is another form of informal assessment. It is based on the teachers’ perceptions of the extent to which pupils understand and participate in the lesson. When the teachers perceive that their teaching does not allow their pupils a good level of understanding, they will be prompted to examine their teaching approach in order to maximize their pupils’ understanding and learning.

Keeping notes about one’s teaching process and its outcomes is an aspect of teaching which is less often used by the teachers. Only five teachers reported keeping notes about their teaching. Some responses are presented below. The rest of these responses are to be found in Appendix B (part 6.4).

“Sometimes when outcomes are unsatisfactory I write down notes about how I have taught and what teaching goals have not been fulfilled so that I can reflect on those later.”

(Teacher A4, 18 years experience)

“When I am not satisfied with my pupils’ learning I may take notes about my teaching. I review these notes when I reflect on my teaching.”

(Teacher B5, 13 years experience)

These notes refer to teaching processes that led to unsatisfactory outcomes. These notes can be reviewed by teachers in order to examine whether their teaching needs to be changed in order to maximize pupils’ learning.

One aspect of teaching, which has been used only by one teacher, is pupils’ statements about the teaching process. This teacher’s response is provided below:

“Sometimes I ask pupils to tell me what they think about the lesson. For example I ask: Are you enjoying the lesson? Did you face any difficulties today? Would you like it if we did something differently?...”

(Teacher A1, 18 years experience)

This is about asking pupils to express their opinion on whether they had any difficulty in understanding and learning. This aspect of practice can provide information from the pupils’ point of view about whether one’s teaching promotes pupils’ learning.

4.2.6 Reflection between actions and outcomes

The main form of reflection, which is used by the Cypriot primary school teachers, is reflection between actions (practice) and outcomes. This is in line with the previous finding that it is the outcomes of their practice that prompt Cypriot primary school

teachers to engage in reflective practice. Since the teachers are prompted to reflect on practice after identifying undesirable outcomes, then their reflections will focus on examining how their teaching process can lead to better outcomes.

When teachers were asked specifically to discuss how they reflect on their practice, the importance they attach to examining the outcomes of their practice was revealed again. All the teachers, except teacher A3, claimed that reflection on whether the outcomes of their practice are what they expected, is of primary importance because it can help them evaluate their effectiveness and understand how to boost it further. In addition the majority of the teachers with an experience of 12-18 years (except teachers A3, B1 and B3), and all the teachers with an experience of 1-2 years, claimed to engage in reflection about the outcomes of their practice not only on their own, but also with colleagues. The teachers' preference for reflection between actions and outcomes also shows their high feeling of responsibility. As I have discussed in the literature review responsibility for the outcomes of one's practice is necessary for reflective teachers. Typical responses are provided below. The rest can be found in Appendix B (part 8).

“Unsatisfactory outcomes can make you question your practice in order to find the reasons for these outcomes. I ask myself: Is it my approach...?”

(Teacher A1, 18 years experience)

“If outcomes are unsatisfactory you must think what to do in order to have better outcomes.”

(Teacher B4, 12 years experience)

“It is very important to reflect on outcomes. I do not think that there is a better way to examine your effectiveness than this.”

(Teacher C5, 1 year experience)

For teacher A3 reflection on whether outcomes were the expected is a means to examine whether outcomes match pupils’ maturity and ability level. Her response is presented below:

“Teachers must know what their pupils have learned and they must also examine whether these outcomes match pupils’ maturity and ability level. They must not blame their teaching for unsatisfactory outcomes unless they examine this first.”

(Teacher A3, 17 years experience)

This teacher explained that the reason for unsatisfactory outcomes may not be the teaching process. As she claimed the reason may be that what you have to teach is sometimes above the pupils’ ability and understanding.

4.2.7 Reflection between espoused beliefs and actions

The Cypriot primary school teachers were generally unaware of what is a process of reflection between espoused (reported) beliefs and actions (practice); although some teachers revealed a partial understanding of this process. Only two out of six teachers, in each of the three groups of teachers of different teaching experience

(teachers A1, A5, B1, B3, C2, C3), claimed to engage in private reflections between espoused beliefs and actions after teaching. One teacher (A6) claimed to engage in this kind of reflection while in action. Only three teachers, (A5, B1, B6), claimed to engage in reflections between espoused beliefs and actions with colleagues.

Further analysis of the interviews revealed that the negativity towards this form of reflection was due to unawareness of: how theories in use underpin practice (teachers A2, B2); what this process is about (teachers A3, B4, C5, C1); and what benefits this process can have (teachers A3, C3, C4, C5). In addition the response of one of the teachers (teacher B5) revealed that reliance on outcomes, as the only aspect of practice to prompt reflection, is another factor which causes negativity towards reflection between espoused beliefs and actions. Responses which illustrate the above views are presented below. The rest of these responses are to be found in Appendix B (parts 14 and 16).

“Reflection on whether one has acted according to one’s beliefs is unconscious and internal ... If teachers strongly feel that they must teach according to certain beliefs, then they will...”

(Teacher A2, 18 years experience)

“Unconsciously we always reflect on beliefs we have considering teaching.”

(Teacher B2, 13 years experience)

“Why should I reflect on whether my lesson is based on theories of learning I believe in? If my lesson is not based on these, will it mean that I must necessarily not have taught effectively? ...”

(Teacher A3, 17 years experience)

“I do not believe teachers must reflect with others on whether they have taught according to the beliefs they espouse. Each teacher has his or her own beliefs. Consequently teachers may underpin their teaching with different beliefs, principles or theories in order to achieve the same goals. In such cases reflection on the beliefs, theories or principles they have used, may lead to disagreements...”

(Teacher C1, 1 year experience)

“When I teach my goal is not the implementation of theories of learning. My goal is effective learning...”

(Teacher A3, 17 years experience)

“It is better to reflect on outcomes... Outcomes give you feedback on how to proceed.”

(Teacher B5, 13 years experience)

The Cypriot teachers, who engage in this form of reflection (teachers A1, A5, A6, B1, B6, C2, C3), had only partial understanding of what this process is about. These teachers interpreted this form of reflection as examining whether their practice is in line with beliefs that underlie teaching methods. Typical responses are provided below. The rest of the teachers’ responses are provided in Appendix B (part 14).

“It is important to examine if one is teaching according to the beliefs that underpin the methods one uses, because then you will try to implement these methods better.”

(Teacher A5, 18 years experience)

“If you want your pupils to learn effectively, it is important to reflect on whether you are implementing the theories that underpin the methods you use in your teaching.”

(Teacher B6, 13 years experience)

The above teachers have reduced the range of espoused beliefs they should reflect on.

I would argue that the beliefs considering teaching methods are not the only beliefs teachers espouse (report to believe in). In the literature review I discussed Calderhead's (1996) summary of five areas of teachers' beliefs. These areas are the following:

- a) beliefs about learners and learning;
- b) beliefs about teaching;
- c) beliefs about subject;
- d) beliefs about learning to teach;
- e) beliefs about self and the teaching role.

This categorization shows that beliefs about teaching methods belong to a larger area of beliefs, which refers to teaching. These beliefs are also related to the area of beliefs about learners and learning. Consequently teachers must not only hold other beliefs that belong to the area of beliefs about teaching, but also to the other four areas.

In addition the teachers, who claimed to engage in this kind of reflection (teachers A1, A5, A6, B1, B6, C2, C3), had an incomplete understanding of how discrepancies between espoused beliefs and actions should be met. This is due to incomplete understanding of the process of reflection between espoused beliefs and actions. These teachers limited their efforts to meet such discrepancies to educating pupils with attitudes and skills, which will enable them to respond to instructions that reflect

the theoretical framework of a teaching method. The responses of teachers A1, A5 and B1 are presented below. The rest of the responses are provided in Appendix B (part 15).

“It was the third time I was trying to implement cooperative learning. I started thinking: This is not cooperative learning. I am the one talking all the time... Why?... I realized pupils could not work cooperatively because they did not have good interpersonal relations. Consequently I gave them small tasks to fulfil in teams about various topics so as to realize the need to share ideas and cooperate.”

(Teacher A1, 18 years experience)

“...When pupils lack attitudes and skills, which are necessary in order to implement a particular method, I teach them some of these skills or help them adopt some of these attitudes through various activities, before implementing this method...”

(Teacher A5, 18 years experience)

“In my class it is very difficult to implement cooperative learning because the pupils are very competitive. So I set rules which aim to help pupils develop attitudes of respect for each other... Good pupils find it hard to cooperate with pupils who are not as good as they are... I discuss this issue privately with these pupils.”

(Teacher B1, 13 years experience)

I would argue that the implementation of a teaching method depends, among others, on how pupils respond to instructions that reflect the framework of this method. The reason is that the teachers may not manage to implement a teaching method properly if the pupils cannot respond. This is not however, the only way of meeting discrepancies between espoused beliefs and actions. Reflection between espoused beliefs and actions refers to all kinds of beliefs that may underpin one's practice, not

just to those beliefs which underpin teaching methods. Consequently, meeting discrepancies between actions and espoused beliefs, which do not refer to teaching methods, may demand a different way of handling. Such a way could be the alignment of one's classroom behaviour with one's espoused beliefs.

Summary of section

In this section I have presented findings which reveal that the Cypriot primary school teachers have a positive attitude towards reflection on practice, either on their own or with colleagues. As an outcome they systematically promote their professional development through reflective practice. The teachers agree that the desire to develop professionally, responsibility for the outcomes of one's practice, and open mindedness are necessary for promoting professional development through reflective practice. The aspects of the Cypriot teachers' practice, which prompt their reflections, are related to outcomes of practice. The forms of reflection, in which they engage, are also related to outcomes of practice. The Cypriot primary school teachers mainly use reflection between actions and outcomes in order to promote their professional development. However, reflection between espoused beliefs and practice was limited and referred only to espoused beliefs about teaching methods. The main reason for this was that the teachers were generally unaware of the benefits of reflection between espoused beliefs and actions and of how theories in use underpin practice.

4.3 CHANGES IN PRACTICE THROUGH REFLECTION AND ASSOCIATED FACTORS

By analysing the Cypriot primary school teachers' interviews I found an association between their ability to bring about substantial change in practice and the following three factors:

- a) length of teaching experience;
- b) theories in use which limit or promote the critical examination of practice;
- c) the kind of professional exchange in which teachers engage.

First I will present the association between teaching experience and substantial change. I will continue with a presentation of insubstantial changes. After this I will present the theories in use which prompted or limited changes in practice. Finally I will discuss how changes in practice are associated with professional exchange.

4.3.1 Change and teaching experience

Substantial changes in practice through reflection were reported by teachers with a teaching experience of 12-18 years. The most able teachers were the teachers with 17-18 years of teaching experience. Four teachers (A1, A2, A4, A6) out of a total six in this group reported that they managed to bring about substantial change in their practice. In the group of teachers with an experience of 12-13 years only two teachers (B1, B3) reported such changes. In the literature review I have discussed that changes in practice can be substantial when:

- a) a teaching approach is replaced by another, based on more suitable theories in use for one's aims;
- b) practice is aligned with espoused beliefs.

Various examples of these changes were reported by teachers A1, A2, A4, A6, B1 and B3. Some of their responses are provided below. Further examples can be found in Appendix B (part 9).

“I tried to teach turning fractions into decimals by explaining the theory. Outcomes were poor. The following lesson I gave them objects and graph paper to represent the transformation.”

(Teacher A2, 18 years experience)

“I had to teach pupils to write an essay with the title “Winter Scenes”. I read essays to them with similar topics and I left them free to write. Outcomes were poor. When I had to teach the same subject matter with another class, I gave pupils the topic sentence of each paragraph and asked them to write the paragraphs. Outcomes were better.”

(Teacher A4, 18 years experience)

“I asked pupils to read a text and find out the advantages of peace and the disadvantages of war, but they had difficulties. So I used brainstorming instead. I asked pupils to tell me whatever word crossed their mind concerning these topics and I wrote them on the board. Then I asked them to make sentences and in this way they began discussing...”

(Teacher A6, 18 years experience)

“I explained the theory of how to add or subtract decimals while demonstrating on the board. Pupils had difficulties. I realized that pupils had not understood well because I had started teaching at the abstract level.

Consequently, I used the Diene's material (single cubes, sets of tens, sets of hundreds) to represent decimals and add or subtract them. In this way they had a better understanding of why we have to add or subtract the way I had explained at the beginning."

(Teacher B1, 13 years experience)

"I tried to teach pupils additions or subtractions with numbers from 0 to 10 by using a line with these numbers. Pupils had difficulties. In the next lesson I drew a line on the floor with numbers from 0 to 10 and asked pupils to make steps backwards and forwards in order to add or subtract. By making steps on a real line more pupils understood."

(Teacher B3, 13 years experience)

In the above examples teaching approaches were replaced with others which were based on more suitable theories in use for the fulfillment of the teachers' aims. These theories are presented in Table 3.

TABLE 3
Theories in use before and after change

Theories in use before change	Theories in use after change	Teachers 12-13 years	Teachers 17-18 years
a. Teachers must explain theories to pupils.	a.1 Pupils must be given opportunities to act in order to learn. a.2 Pupils must discover on their own.	B1, B3	A1, A2, A4
b. Pupils must be given freedom to act.	b. Pupils must be given more guidance.		A4
c. Pupils can build on ideas they can find in a text.	c. Pupils must be challenged to surface their ideas through brainstorming.		A6

In addition to changes in practice where theories in use were replaced, teacher A6 reported an example of acting more in line with espoused beliefs. This example refers to simplifying one's approach so as that practice can be aligned with espoused beliefs

which refer to teaching in the most simple way possible. The response of teacher A6 is presented below:

“I explain how problems are solved by following a more simplified approach. E.g. I guide pupils to follow more simple stages of thinking in order to solve a problem...”

(Teacher A6, 18 years experience)

The Cypriot primary school teachers with an experience of 1-2 years displayed no ability to bring about substantial changes in practice through reflection. Consequently they may not be able to promote professional development through reflective practice effectively. The changes, reported by these teachers, continued to be underpinned by the theories in use, which were the basis of the approach which led to unsatisfactory outcomes (teachers C2, C3, C4, C5).

Some of these changes were either repetitions or minor modifications of the same approach. Typical responses are provided below. The rest of these teachers' responses can be found in Appendix B (part 9).

“I explain again how exercises are solved on the board, so that pupils will listen and learn. It is a kind of practice with the whole class.”

(Teacher C3, 1 year experience)

“I explain the topics, with which pupils have difficulties with, in the way I did before. I do this in order to make sure that the reason pupils did not understand was not the way I explained these topics, but pupils' lack of attention.”

(Teacher C5, 1 year experience)

“If explaining in the same way does not work, I use a different way. I explain by using more simple words.”

(Teacher C5, 1 year experience)

“... I organize data on the board in a better way, so that when I explain, pupils will focus on the data which I will be discussing and therefore they will understand better...”

(Teacher C1, 1 year experience)

Other ways for meeting unsatisfactory outcomes, which were reported by the Cypriot primary school teachers with 1-2 years of teaching experience, did not even consider examining one's approach. These ways were the following:

- a) to do nothing if topics, which have not been understood well by pupils, will be taught again in the future (teacher C5);
- b) to attribute poor outcomes to lack of practice without examining one's approach (teachers C1, C2, C3, C4);
- c) to give up teaching methods (teachers C1, C4, C5, C6) or implement methods as less often as possible when outcomes are unsatisfactory (teacher C5).

Typical responses that illustrate the above are provided below. The rest of the teachers' responses can be found in Appendix B (part 9).

“When pupils' outcomes are unsatisfactory in certain topics of a test, I do nothing at that time, if I know that these topics will be taught again in the lessons which will follow.”

(Teacher C5, 1 year experience)

“When outcomes are unsatisfactory I think that pupils may have not practised enough.”

(Teacher C3, 1 year experience)

“When I was teaching history I asked pupils to discover information from a text. Pupils had difficulties because the text was difficult. In addition weak pupils could not cooperate... So I decided to abandon this method. I read the text myself, I asked simple questions and I explained...”

(Teacher C5, 1 year experience)

Similar examples of espoused changes in practice, which turned out to be insubstantial, were provided by two teachers with a teaching experience of 17-18 years (teachers A3, A5) and four teachers with a teaching experience of 12-13 years (teachers B2, B4, B5, B6). These teachers, despite their experience, did not manage to transform their practice through reflection. In order to address unsatisfactory outcomes they turned to the following remedies:

- a) more practice for all topics without examining their practice (teachers A3, A5, B4);
- b) the repetition of a teaching approach (teacher B6);
- c) the provision of easier exercises without examining the teaching process (teacher B5).

Responses in which the above are illustrated are provided below. The rest of the responses can be found in Appendix B (part 9).

“I let pupils practise as much as possible because pupils learn when they practise a lot.”

(Teacher B4, 12 years experience)

“I solve exercises pupils have difficulties with on the board. I explain what they did wrong and how the exercises should be solved, until pupils understand better.”

(Teacher B6, 13 years experience)

“Sometimes what we teach does not match the pupils’ level... Consequently we must give pupils easier exercises.”

(Teacher B5, 13 years experience)

4.3.2 Change and theories in use

The above examples of insubstantial change reveal discrepancies between what these teachers do in order to change their practice and what they espouse. All of the above teachers espoused that in case of unsatisfactory outcomes they must critically examine their practice in order to make whatever changes are necessary. Despite this the examples, they reported in their interviews as indications of change in practice, were underpinned with theories in use which restricted substantial change. These theories prevented the critical examination of practice (theories in use 1 and 2, see Table 4). In addition they led to the repetition of teaching approaches (theories in use 3 and 4) and to minor modifications in practice (theories in use 5 and 6).

TABLE 4

**Theories in use which underpin substantial
and insubstantial change**

Theories in use which underpin insubstantial change	Theories in use which underpin substantial change
1) Practice must not be examined if pupils' level is low (teachers A5, B5, C2) or if particular topics will be taught again (teacher C5). 2) Methods which do not lead to satisfactory outcomes must be given up (teachers A3, C4, C5, C6).	1) Practice must be examined before attributing unsatisfactory outcomes to pupils' level or ability (teachers A2, A6).
3) More practice is necessary when outcomes are unsatisfactory (teachers A3, A5, B2, B4, B5, B6, C1, C2, C3, C4). 4) The repetition of one's teaching approach can boost learning (teachers B6, C2, C3, C4, C5).	2) The examination of one's practice must continue until developmental needs are identified (teachers A1, A2, A4, A6, B1, B3).
5) Simplifications in forms of expression, numbers or sentences is a change in one's approach that can boost learning (teachers C1, C3, C5, C6). 6) The provision of easier exercises can boost learning (teacher B5).	3) Changes in practice must take place in order that satisfactory outcomes are achieved (teachers A1, A2, A4, A6, B1 and B3).

On the contrary for teachers A1, A2, A4, A6, B1 and B3 the critical examination of practice was not just an espoused belief. Their descriptions of how they reflect on practice revealed theories in use (see Table 4) which continually drove them towards the critical examination and reexamination of their practice. Responses which reveal these theories in use are presented below. The rest of these responses can be found in Appendix B (parts 10.1.a, 10.1.b, 10.1.c, 10.2.a, 10.2.b).

“Unsatisfactory outcomes can make you question your practice. You will ask yourself: Is it my approach? Is it the way I organized the lesson? Is it the test I gave? ...”

(Teacher A1, 18 years experience)

“When I go home I reflect on my practice and I say: What have I done that was not effective?”

(Teacher A2, 18 years experience)

“I reflect on the teaching approaches I used in order to find out what I did wrong or what I did well. I start from the goals I set. Were they appropriate? Were they fit for the pupils’ level? Then I think of my teaching. Did my approach and the activities I used help all the pupils learn effectively or did they help only some pupils? ”

(Teacher B1, 13 years experience)

“...When I evaluate myself I usually discover developmental needs which I must meet. It is very rare to tell myself ‘Well-done’ ...”

(Teacher A4, 18 years experience)

“...How can I teach differently topics that I have taught and outcomes were unsatisfactory? Is there another way? ...”

(Teacher A2, 18 years experience)

“When outcomes are unsatisfactory I ask myself: Should I use a different method or approach? Should I put emphasis on another topic ...”

(Teacher A4, 18 years experience)

“When pupils do not know a topic I have taught, I do not say that it is the pupils’ fault. I say that I must use a different teaching approach”.

(Teacher A2, 18 years experience)

“Most of the time it is our teaching approach that it is to blame. It is not the pupils that we must blame...”

(Teacher A6, 18 years experience)

4.3.3 Professional exchange and insubstantial change

The teachers (A3, A5, B2, B4, B5, B6, C1, C2, C3, C4, C5, C6), whose reported changes in practice have been discussed as insubstantial, had discussions with colleagues, which did not refer to teaching that took place. Their discussions had an informatory nature considering topics such as:

- a) coordination (teachers A3, B2, B4, B5, B6, C1, C2, C3, C4, C6; see Appendix B, parts 12.1.e, 12.2.b and 12.3.b);
- b) teaching goals (teacher A5; see Appendix B, part 12.1.d);
- c) pupils' outcomes (teachers A5 and C2; see Appendix B, parts 12.1.f and 12.3.d);
- d) pupils' level and classroom management (teacher C3; see Appendix B, part 12.3.e).

I would argue that the above kind of discussions are important because the sharing of the above information can become an incentive for further communication on topics that concern practice. For example a discussion about coordination may lead to discussions about the teaching of the topics which are coordinated. A discussion about goals may lead to discussions about how to achieve these goals, or about the

extent to which these goals have been achieved. A discussion about pupils' outcomes may lead to discussions about how to achieve better outcomes. A discussion about pupils' level and classroom management may lead to discussions about how to adjust teaching to the abilities and behaviour of the pupils of a certain classroom. The discussion of these topics however, did not lead the above teachers to a more constructive exchange of views.

The above teachers also engaged in planning activities with colleagues or in asking colleagues' opinions about activities they had planned to do (teachers B6, C2, C4, C5 and C6; see Appendix B, parts 12.2.c and 12.3.c). I would argue that exchanging views about activities may lead teachers to rethink how these activities should take place or in adopting new ideas. However, these discussions did not refer to teaching that took place. Consequently opportunities for awareness of theories in use and for change are limited through the above discussions. I would argue that these teachers would have benefited much more in bringing about quality changes in their practice if the above discussions had been followed by reflection with colleagues about:

- a) whether these activities led to the expected outcomes;
- b) whether the implementation of these activities took place according to espoused beliefs.

Another kind of discussion, these teachers engaged in, was about teaching methods (teachers A5 and C5; see Appendix B, parts 12.1.c and 12.3.a). I would argue that such discussions can be a source of learning useful information about teaching methods. There is no guarantee however, whether this information will be applied in practice or whether it will remain espoused (knowledge teachers refer to when they

discuss practice). The reason is that in these discussions these teachers did not refer to cases of implementing teaching methods in their own practice. The discussion of their own experience of teaching methods might give them an opportunity to identify discrepancies between how they think they are implementing methods (espoused beliefs) and actual implementation of these methods (actions). An identification of this discrepancy can prompt teachers to find ways of aligning practice with what they espouse about the implementation of teaching methods. Due to the fact however, that these discussions did not refer to these teachers' own experience of implementing methods, opportunities to identify discrepancies between espoused beliefs about teaching methods and actual implementation (actions) may have been lost.

At this point I must mention that some Cypriot primary school teachers, who reported changes in practice which I have characterized as substantial, also mentioned that they discussed with colleagues teaching methods. These teachers were A1, B1 and B3 (see Appendix B, parts 16.1.1.b, 17.2.a and 16.2.2.a). These teachers however, did not limit themselves only to this kind of discussions. Unlike teachers A5, B6 and C5, they also engaged in professional dialogues about their own practice which resulted in substantial changes in this practice.

The kind of professional exchange I have presented in this subsection, did not lead to the critical examination of practice. Instead it limited how Cypriot primary school teachers promote professional development through reflective practice.

4.3.4 Professional exchange and substantial change

The teachers (A1, A2, A4, A6, B1, B3), whose reported changes in practice have been discussed as substantial, used to engage in discussions with colleagues about how to change practice with which they were dissatisfied. These teachers used to engage in professional exchange which cannot be characterized as dialogical reflection. In these discussions the teachers presented brief descriptions of unsuccessful practice in order to ask their colleagues to suggest new approaches. They did not ask their colleagues to exercise judgement on the described practice or to share any reflections about this practice with them. Instead they used to evaluate their practice on their own. In dialogical reflection however, descriptions of practice are not provided only in order to ask for an alternative approach. Descriptions are provided in order that colleagues challenge each other to reflect on whether discrepancies exist between actions and espoused beliefs or between actions and outcomes. The identification of these discrepancies can lead to a reexamination of practice and to the development of alternative teaching approaches. In dialogical reflection alternative teaching approaches are the outcome of the joint examination and questioning of practice. They are not just different ideas about teaching, which are provided by other colleagues.

Despite the form of these teachers' professional exchange, some of the received suggestions from colleagues were about how to teach based on more suitable theories in use for particular teaching goals. These were received by teachers A1, A2, A4, B1 and B3. Most of these suggestions were based on the theory in use that pupils learn more effectively by acting on their own. With these suggestions the teachers replaced

teaching approaches which were underpinned with the theory in use that explaining theoretically can boost pupils' learning. One of these suggestions was based on the theory in use that criticality is promoted when pupils are allowed to discover what questions to investigate instead of being given the questions from the teacher. Some responses are presented. The rest of these responses are provided in Appendix B (parts 13.1.a, 13.2.a.1, 13.2.a.2 and 13.2.a.3).

"I explained to pupils the theory to multiply fractions. Outcomes were poor. I told a colleague with expertise in mathematics what I did and I asked if there was a different way to teach this topic. My colleague suggested to begin the lesson with simple multiplications such as two times four and then move on to half times four or half times eight, so that pupils would begin to realize that half times eight actually means to divide eight in half. Then he suggested giving pupils pieces of paper which represent $\frac{1}{4}$ and ask them to multiply it two times, one time and then half a time. In this case pupils had to cut this piece in half in order to have $\frac{1}{8}$. In this way they understood how multiplications are done through their own actions..."

(Teacher A1, 18 years experience)

"I had explained theoretically what decimals are, but pupils were confused. I told a colleague what I did and asked for a different way to teach this topic. My colleague suggested telling pupils to represent decimals on graph paper."

(Teacher A2, 18 years experience)

"I used to ask pupils questions in order to search for information from a text. A colleague suggested that pupils could learn to discover information in a more critical way if I did not set the questions myself, but ask pupils to tell me what information they had already known and what they would like to find out. Then I would not only ask what they had found out, but also what information they would like to find out, but did not."

(Teacher B1, 13 years experience)

“I used to discuss social topics by using pictures. Pupils’ response was poor. I discussed this with a colleague and asked for advice. My colleague suggested visits to the kind of people, we were discussing, in their real life situations. In this way pupils could observe these people in their surroundings and elicit information through interviews.”

(Teacher B3, 13 years experience)

In addition teachers A6, B1 and B3 received suggestions about how to act closer to espoused beliefs. These suggestions are presented in Table 5.

TABLE 5
Suggestions about how to act closer to espoused beliefs

Teachers	Suggestions
A6	<ul style="list-style-type: none"> • how to act more consistently with the belief that what one teaches must be explained as simply as possible (see Appendix B, part 13.1.b)
B1	<ul style="list-style-type: none"> • how to make the explanation of two related topics in mathematics more comprehensive (see Appendix B, part 13.2.b.1) • to devote more time in oral practice, when following the approach this teacher had in mind, because this could boost pupils’ learning (see Appendix B, part 13.2.b.2)
B3	<ul style="list-style-type: none"> • how to simplify a task in order that pupils would fulfil it without much guidance (see Appendix B, part 13.2.b.1) • how to adjust one’s approach to the needs of a certain pupil (see Appendix B, part 13.2.b.3)

Responses which illustrate the above suggestions are provided below:

“Colleagues have suggested to me, many times, how to implement the same approach in a more simplified way. E.g. how to follow more simple stages in order to teach a topic. In this way pupils understand better.”

(Teacher A6, 18 years experience)

“When I was teaching ratios I used to explain the theory and give pupils a lot of written exercises to practise. Yet pupils could not find the answers easily when I asked them orally. A colleague told me that it was vital to spend time asking pupils simple problems concerning ratios so that they would learn this procedure, before moving to written exercises. It really helped pupils.”

(Teacher B1, 13 years experience)

“I used to ask pupils questions in order to tell the story. But when texts were long, pupils had difficulties. A colleague suggested writing sentences about the text which the pupils would mark as true or false. Then using these sentences they could easily tell the story.”

(Teacher B3, 13 years experience)

It is possible that neither the teachers who provided the suggestions, nor the teachers who received them, were aware of the kind of discrepancies inherent in these suggestions. The teachers, who received these suggestions, presented them as different approaches. They did not make any differentiation between suggestions which were based on different theories in use and suggestions which were about how to act more in line with espoused beliefs. The reason for this must be lack of knowledge of reflective practice.

Summary of section

In this section I analysed interview data in order to examine whether the changes in practice, which were reported by the Cypriot primary school teachers, were substantial or insubstantial. Furthermore I examined which factors can boost how Cypriot primary school teachers promote professional development through reflective practice. These factors are associated with the ability to bring about substantial change in practice and are the following:

- a) length of teaching experience;
- b) theories in use that drive or prevent the critical examination of practice;
- c) the kind of professional exchange teachers engage in.

4.4 REFLECTIVE PRACTICE AND GOALS FOR PROFESSIONAL DEVELOPMENT

One objective of this research was to find out whether reflective practice is a cyclical process which leads to the setting of goals for future professional development. In the review of the literature I argued that reflective practice is a cyclical process (Argyris and Shön, 1974; Brockbank and McGill, 1998; Day, 1999; Eby and Kujawa, 1994; Gayhe and Gayhe, 1998; Osterman and Kottkamp, 1993; Pollard, 2002; Pugach and Johnson, 1990; Rodgers, 2002; Schön, 1987; Woodcock et al., 2004). During this process professionals may move backwards or forwards between various stages of reflection. In addition when changes in practice are implemented, as an outcome of

reflective practice, professionals still have to reflect on the extent to which these changes meet their professional growth goals. The analysis of the interviews however, revealed that there is a mismatch between the focus of the Cypriot primary school teachers' reflections and the long term goals they set for professional development.

The Cypriot primary school teachers believe that reflective practice should result in setting goals for professional development. Half of the teachers claimed that the aim of reflective practice is the setting of goals for professional development (teachers A1, A2, A4, A6, B2, B3, C3, C4, C5). The other half of the teachers added that professional growth goals must meet developmental needs which are identified through reflective practice (teachers A3, A5, B1, B4, B5, B6, C1, C2, C6). Some responses are presented below. The rest of these responses are provided in Appendix B (part 7).

“The essence of reflective practice is to set goals for professional development.”

(Teacher A1, 18 years experience)

“If one's reflective practice does not lead to goals for professional development why should we engage in it anyway?”

(Teacher A4, 18 years experience)

“Through reflective practice teachers identify the level of professional ability they have reached and this knowledge can help them set goals for further development.”

(Teacher B4, 12 years experience)

“Reflective practice is the means to identify your developmental needs. Then you must take steps to meet them.”

(Teacher B1, 13 years experience)

“After reflecting on practice teachers must set goals for development in the areas they have developmental needs.”

(Teacher C1, 1 year experience)

Despite the above attitude, the Cypriot primary school teachers’ description of their reflections on practice did not reveal a cyclical process. The teachers described the problem that triggered their reflections and the solution they came up with. They did not mention whether a series of solutions were reached before the final solution. Furthermore the majority of the teachers’ goals does not refer to the topics, which the teachers mentioned as the focus of their reflections. Their goals, as they are shown in table 6, mainly concern general methodology objectives such as time management and lesson planning which promotes pupils’ participation. Only two teachers with an experience of 17-18 years (teachers A1, A2) and one teacher with an experience of 12-13 years (teacher B6) mentioned goals concerning the teaching of specific topics. (See Table 6 and Appendix B, part 7.1).

Only one teacher (B2) could not articulate any goals, despite espousing (reporting to believe in) the setting of goals for professional development through reflective practice. As she said goals are in her unconscious. The response of this teacher is provided below:

“Goals? What goals?... We may have goals, but they may be in our unconscious. We may not be clear about them or aware of them. We may sit and write down goals and suddenly realize that we have been working on meeting the most of them in the past years, but we were not consciously aware of it...”

(Teacher B2, 13 years experience)

TABLE 6

Goals

Goals		Teachers/Years of teaching experience		
		1-2 years	12-13 years	17-18 years
Teaching Approaches concerning various topics	• To replace unsuccessful approaches for specific topics with more successful ones			A1
	• To develop pupils’ oral expression			A2
	• To teach art more effectively		B6	
Teaching Methods	• To implement discovery learning more effectively	C6	B3	A5
	• To implement the communicational method more effectively		B3	
General Methodology	• To speak less in class			A4
	• More opportunities to pupils to express themselves and take part in the lesson	C2	B4, B5	A4 A6
	• To simplify examples used in teaching	C2		
	• To use time more effectively	C3,C4	B4, B6	
	• To teach at pupils’ level	C1		
	• To use computers	C5		A3
Innovations	• To learn about the innovations introduced in the Cypriot educational system		B5	
Relevant topics to teaching	• To learn about pupils’ psychology	C5	B1	
	• To learn about parental involvement	C5		

The above findings reveal that, although the Cypriot primary school teachers espouse the setting of goals for professional development as an outcome of reflective practice, the objectives of their reflections and their goals for professional development differ. This mismatch shows that how Cypriot primary school teachers promote their professional development through reflective practice may not follow a cyclical process.

Summary of chapter

In this chapter I have presented findings which reveal that the Cypriot primary school teachers associate the term professional development with knowledge from official authorities. I have shown that they systematically promote their professional development through reflective practice. The main form of reflection, they use to engage in, is reflection between actions and outcomes. Reflection between espoused beliefs and actions is limited. I have presented the factors which are associated with the Cypriot primary school teachers' ability to bring about substantial changes in practice. These factors are:

- a) length of teaching experience;
- b) theories in use which are positive towards the critical examination of practice;
- c) professional exchange about one's own practice.

The Cypriot primary school teachers' goals for professional development and the objectives of their reflections differ. This finding reveals that how Cypriot primary

school teachers promote their professional development through reflective practice may not follow a cyclical process.

In the next chapter I will discuss why Cypriot primary school teachers associate the term professional development with knowledge from official authorities. I will look into the forms of reflection in which teachers use to engage. I will discuss factors which are associated with how the Cypriot primary school teachers promote professional development through reflective practice. These factors are: imposition of inspectors' demands; need for trust; length of teaching experience; theories in use; and professional exchange. Finally I will examine whether the Cypriot primary school teachers' reflections were part of a cyclical process.

CHAPTER 5: DISCUSSION

In this chapter I discuss the association of professional development with knowledge provided by official authorities. After this I discuss the effect of the demands imposed by these authorities on the Cypriot primary school teachers' professional practice. I continue with a discussion of underlying reasons for: the need for trust of teachers with 12-18 years of teaching experience; the systematic engagement in reflection between actions (practice) and outcomes; and the engagement in reflection between actions and espoused (reported) theories about teaching methods. I also examine which factors are associated with changes in practice. In the end of this chapter I discuss the mismatch between the Cypriot primary school teachers' focus of reflection and their long term goals for professional development.

5.1 PROFESSIONAL DEVELOPMENT

This section is divided in two subsections. In the first subsection I discuss the association of professional development with knowledge provided by official authorities. This examination will aid further understanding of how reflective practice is related to the promotion of professional development. In the next subsection I discuss how demands on practice, imposed by an official authority, affect professional development.

5.1.1 The association of professional development with knowledge from official authorities

The Cypriot primary school teachers (except teachers B1, B6 and C1) interpret professional development as the receipt of knowledge from an official authority, mainly the MOEC. This interpretation may be an outcome of the way the professional development of primary school teachers is officially promoted in the Cypriot educational system. In this system there are no means which bring together teachers' knowledge from practice and knowledge from official authorities in order to promote professional development. The Pedagogical Institute is a tertiary level institute in Cyprus which is officially responsible for the professional development of primary school teachers. The Institute promotes teachers' professional development through seminars which are presented by teachers with higher degrees (e.g. master degrees, Ph.D). Teachers can attend these seminars voluntarily in their free time. The Institute promotes knowledge, which is in line with what the Ministry of Education and Culture (MOEC) approves. This is because the Pedagogical Institute belongs to the MOEC. In addition there are no counselors, who could engage with teachers in reflective practice. Counselors, officially appointed by the MOEC, would represent official sources of development.

In addition, the way in which subject coordinators promote the Cypriot primary school teachers' professional development may fail to convey the message that the examination of practice with colleagues is a form of professional development. Subject coordinators are teachers with master's degrees in certain subjects (e.g. M.A. in Mathematics). They have been appointed by the MOEC to promote the professional development of Cypriot primary school teachers. Subject coordinators

usually present lessons in schools and afterwards discuss these with the teachers who are present. Such presentations and discussions are limited because there are very few coordinators at present in Cypriot primary schools. These discussions usually refer to aspects of practice which are highlighted in the coordinators' lessons. An examination of the teachers' own practice, in order to identify developmental needs, does not usually take place in these discussions. Subject coordinators promote knowledge, which the MOEC approves. This is because they are appointed by the MOEC. As an outcome the message conveyed to teachers is that they ought to learn knowledge the MOEC approves. If subject coordinators discussed with teachers their own practice, they could officially give them the message that discussing their own practice is an officially approved form of professional development.

The knowledge, the primary school teachers develop from practice, does not seem to be officially valued in the Cypriot educational system. In addition to classroom inspections, the evaluation of Cypriot teachers depends on credentials from official sources of learning (e.g. master's degrees, certification of attending seminars by the Pedagogical Institute, etc.). Furthermore the Cypriot primary school teachers do not have opportunities to make the knowledge they develop from practice public. Such opportunities could be given through Cypriot educational journals or presentations at forums. If Cypriot primary school teachers had such opportunities, they might feel that the knowledge they develop from practice is worthy of presentation and discussion by others. As an outcome they might consider discussions of their practice with colleagues as an important form of professional development.

5.1.2 How imposed demands on practice affect professional development

Despite the fact that Cypriot primary school teachers value knowledge, which is provided by official authorities, the impact of inspectors on teachers' professional development is limited. One reason for this may be that the inspectors' demands are not the outcome of the reflective examination of the teachers' practice. Another reason may be the lack of joint engagement in the reflective examination of the inspectors' demands. In the Cypriot educational system inspectors have the dual responsibility for teachers' professional development and evaluation. (For more information about the inspectors' role, see Appendix C.) I would argue that informing teachers of new ways of teaching and demanding that these be implemented are hardly effective methods of promoting professional development. As I have discussed in the literature review, information alone may not change practice. Change in practice is more likely to take place when teachers are given the opportunity to discuss their practice (Argyris and Shön, 1974; Brockbank and McGill, 1998; Day, 1985, 1993, 1999; Ghaye and Ghaye, 1998; Osterman and Kottkamp, 1993; Rodgers, 2002; Woodcock et al., 2004). By discussing their own practice they are more likely to become aware of their theories in use and realize whether they need to change their practice. The reflective examination of practice is not shared however, between teachers and inspectors. Consequently Cypriot primary school teachers may not become aware of unsound theories in use that underpin their practice. As an outcome they may not feel the need to change their practice by implementing the inspectors' demands. Furthermore there is lack of joint engagement in the reflective examination of the inspectors' demands. This prevents the Cypriot

primary school teachers from gaining insight into the theoretical frameworks of these demands and their potential benefit to their practice.

In addition the dual responsibility of inspectors for teachers' professional development and evaluation limits even further the impact of inspectors on the promotion of Cypriot primary school teachers' professional development. The analysis of the interviews revealed that fear of a negative evaluation discourages teachers from engaging in discussions with inspectors about their demands. This shows that it might be better if professional development responsibility and evaluation were separated.

Furthermore I would argue that Cypriot primary school teachers may not be adequately equipped to examine the inspectors' suggestions. I would argue that the critical examination of a suggestion does not only demand examining whether it promotes pupils' learning. It also demands examining whether one's classroom behaviour is in line with the theoretical frameworks that underpin this suggestion. A reason, why certain suggestions may seem ineffective, could be discrepancies between the underpinning theoretical frameworks of these suggestions and one's practice. This examination demands knowledge of reflection between espoused theories and actions (practice). It also demands knowledge of the theoretical frameworks that underpin a suggestion. The analysis of the interviews revealed however, that Cypriot primary school teachers do not have good knowledge of reflection between espoused theories and actions. They may neither have good knowledge of the theoretical frameworks of the inspectors' demands. The reason is

lack of joint engagement with inspectors in the reflective examination of their demands.

5.2. ENGAGEMENT WITH REFLECTION

This section is divided in two subsections. In the first subsection I explore the underlying reasons for the preference of the Cypriot primary school teachers for reflection between actions (practice) and outcomes. After this I examine why reflection between espoused (reported) theories and actions is limited to espoused theories that concern teaching methods. This examination is essential in understanding how Cypriot primary school teachers promote their professional development through reflective practice. In the second subsection I explore why Cypriot primary school teachers with an experience of 12-18 years consider trust to be the primary criterion to determine whether they will share their reflections with colleagues.

5.2.1 Forms of reflection

Cypriot primary school teachers used to engage mainly in reflection between actions and outcomes probably because outcomes are an important means of evaluation of their practice. In the Cypriot educational system the teachers' superiors, inspectors or head teachers, usually want to examine whether the teachers' practice leads to

effective outcomes. When inspectors or head teachers visit classes they ask questions or assign various tasks to pupils in order to estimate their level of learning. Consequently Cypriot primary school teachers must feel that they must constantly work on achieving the best possible outcomes. Due to this they must be constantly examining the quality of the outcomes of their practice. This is why the analysis of the interviews revealed that the aspects of practice, which prompt reflection, refer to outcomes. When outcomes are unsatisfactory teachers must feel that they should examine their teaching process in order to find alternative ways of teaching which will lead to better outcomes. Consequently an evaluation, which is based on outcomes, has the potential to drive Cypriot primary school teachers towards systematic reflection between actions and outcomes.

Demands concerning evaluation must have also driven the Cypriot teachers towards limiting reflection between espoused beliefs and actions to espoused beliefs about teaching methods. These teaching methods are currently demanded by teachers' superiors to be implemented in practice. (E.g. cooperative method, discovery learning, communicative method etc.) Consequently teachers' evaluations can be enhanced by the effective implementation of these methods. As a result teachers must make sure that they implement them effectively. In order to examine this they must reflect on whether the theoretical frameworks, that underlie these methods, have been applied in their practice. This is reflection between espoused theories and actions.

In addition in the Cypriot educational system primary school teachers are provided with knowledge of how to reduce discrepancies between practice and espoused theories which underpin teaching methods. Cypriot primary school teachers are

taught the theoretical frameworks of teaching methods, currently demanded in the Cypriot educational system, through initial training or seminars by the Pedagogical Institute. Consequently they can easily espouse (report) the theoretical frameworks that underpin these methods. The Cypriot primary school teachers are also taught the signs that show whether the theoretical frameworks of these methods have been implemented in practice. These signs usually refer to pupils' behaviour. E.g. If a teacher aims to implement the cooperative method, pupils must be able to share information, sources and exchange views. If they cannot, then this method cannot be implemented according to its underlying framework. In addition Cypriot primary school teachers are also given knowledge about what to do in order to teach more in line with the theoretical frameworks of these methods. This knowledge is about teaching pupils abilities or attitudes, which are necessary in order that they behave in line with the theoretical frameworks of these methods. E.g. the teachers learn that, in order to implement the cooperative method, they must teach pupils how to appreciate each others' help and how to work in a group. The responses of the Cypriot primary school teachers about how to remove discrepancies between espoused theories and actions revealed the above kind of knowledge. The Cypriot educational system however, does not provide primary school teachers the opportunity to acquire knowledge for identifying and meeting discrepancies between practice and espoused beliefs which refer to aspects of practice other than teaching methods.

5.2.2 Trust and reflection

Cypriot primary school teachers with 12-18 years of teaching experience consider trust as the primary criterion to determine whether they will share their reflections with colleagues. Their long experience must have made these teachers feel that they are denied the right to have developmental needs. Due to this they need to be sure that the colleagues, they will discuss practice with, not only will help them, but also will not undermine them by revealing their developmental needs to others. This fear of breach of trust makes them very selective towards whom they discuss practice with. As an outcome it limits their opportunities for professional exchange.

The importance of trust for professional development is stressed by Hargreaves (2002). Hargreaves (2002) conducted research about the emotions of teaching and educational change with 50 elementary and secondary teachers in Canada. Among his findings 11 citations reflected problems of “communication trust”. This term has been used by Reina and Reina (1999). It concerns the quality and openness of communication among colleagues in terms of disclosing information, telling the truth, admitting mistakes, keeping confidences and refraining from gossip. In Hargreaves’ (2002) research problems of “communication trust” led to negative feelings towards professional interaction. The termination of professional interaction however, can mean fewer opportunities for professional learning. This is why Hargreaves (2002) concludes that breach of trust or in other words “communication betrayal” is the emotional enemy of professional improvement. [The term communication betrayal is used by both Reina and Reina (1999) and Hargreaves (2002) in order to refer to the breakdown of “communication trust”.]

Hargreaves' (2002) findings refer to a different educational context than this of Cyprus and they cannot be generalized due to the small number of the sample. In addition the citations that referred to communication betrayal were only eleven. Furthermore it is not clear whether beginner teachers took part. It is only mentioned that the oldest and the youngest teachers in each school participated. Despite these issues, I refer to the above findings because they show the effect of breach of trust on professional relations and learning.

5.3 CHANGES AND ASSOCIATED FACTORS

This section is divided in three subsections. In the first subsection I discuss the association of changes in practice with the following factors:

- a) length of teaching experience;
- b) professional exchange;
- c) theories in use.

Knowledge of how these factors can affect changes in practice is essential in finding out more about how Cypriot primary school teachers promote their professional development through reflective practice. As I have discussed in the literature review, the aim of reflective practice is to identify and meet discrepancies between actions and outcomes or between theories in use and espoused theories. When these discrepancies are identified substantial changes in practice can be brought about. Consequently it is of primary importance to know how the above factors can affect

the Cypriot primary school teachers' ability to reflect on practice in ways which will allow them to meet the above discrepancies and bring about substantial change.

In the second subsection I make hypotheses about the development of Cypriot primary school teachers' theories in use which prevent them to promote their professional development through reflective practice. In addition I explore relevant research literature. In the last subsection I examine the form of professional exchange which the analysis of the interviews revealed to be associated with substantial changes in practice.

5.3.1 Length of teaching experience, theories in use and professional exchange

After analysing the interview data I found that length of teaching experience alone may not lead to the ability to bring about substantial changes in practice. Teaching experience must be underpinned with theories in use which drive towards the continuous and critical examination of practice. In addition it must be combined with professional exchange about one's own practice. Theories in use, which drive towards the continuous and critical examination of practice, can motivate teachers to continually examine and change practice in ways that will lead to more effective outcomes. Professional exchange about one's own practice has the potential to bring to the surface unsound theories in use that might have otherwise remained in one's unconscious. When awareness of unsound theories in use is achieved, it is more likely that teachers will work on replacing these unsound theories in use with theories

in use which are more appropriate for particular teaching purposes or to align espoused theories with actions.

On the contrary the Cypriot primary school teachers with an experience of only one or two years did not manage to benefit from this experience as much as they should. On the one hand theories in use, which drive away from the critical examination of practice, did not allow them to examine practice critically. On the other hand lack of professional exchange about their own practice allowed unsound theories in use to remain unsurfaced. As an outcome these teachers remained unaware of theories in use which limit their professional development. After analysing the interviews I identified discrepancies between these teachers' espoused beliefs about change and their actions. These discrepancies confirm that they are unaware of the negative effect of these theories in use on their professional development. As I have discussed in the findings chapter, these teachers espoused (reported to believe in) the critical examination of practice. Despite this, the analysis of the interviews revealed that their practice was restricted by theories in use which drove them against the critical examination of practice and prevented change.

Theories in use, which drive against the critical examination of practice and lack of professional exchange about one's own practice had the same effect on two out of the six teachers with 17-18 years of teaching experience and on four out of the six teachers with 12-13 years of teaching experience. These teachers did not manage to boost their professional development as much as they should despite having much longer teaching experience than the teachers with an experience of 1-2 years. The reason is that these teachers had theories in use which drove them away from the

critical examination of their practice. In addition they did not manage to become aware of their unsound theories in use because they did not use to discuss their own practice with colleagues.

The above discussion shows that a long experience may not necessarily lead to an enhanced ability to change practice substantially. Length of teaching experience may lead to the repetition of unsuccessful practice when teachers deal with problems of practice with an uncritical eye (e.g. repetition, minor modifications) and do not become aware of unsound theories in use. On the contrary the ability to bring about substantial change in practice is enhanced when teaching experience is accompanied by:

- a) the continuous and critical examination of practice;
- b) awareness of unsound theories in use.

In this case the longer the teaching experience the greater the profit on one's professional development. This is why the analysis of the interviews revealed that the group of teachers with an experience of 17-18 years has the largest percentage of teachers who can bring about substantial change in practice through reflective practice.

5.3.2 The development of Cypriot primary school teachers' theories in use

Cypriot primary school teachers from all age groups developed theories in use which prevent the critical examination of practice. I cannot know the time these theories in

use developed. I will assume that since the beginners have just entered the profession, these theories in use might have developed in their unconscious before the time of their appointment. A number of teachers, with longer teaching experience also developed such theories in use. Due to this I will again assume that these theories in use might have developed before the time these teachers entered the profession. In addition I will assume that these theories have been underpinning these teachers' practice ever since because they never became aware of them. The lack of discussions with colleagues about their own practice is the factor that must have prevented this awareness. The above association between theories in use, which limit the critical examination of practice, and lack of discussions about one's own practice leads me to a further assumption: unsound theories in use may never come to the surface if teachers do not discuss their practice with colleagues. As a result, teachers will remain unaware of them. Their practice may continue to be driven by these theories in use, despite what they espouse (report to believe in), even by the end of their career.

Relevant to the above discussion are findings of research literature about the development of teachers' beliefs (Ambrose, 2001; Ackley et al., 1999; Aitken and Mildon, 1991; Ball, 1990; Bell, 2001; Calderhead and Robson, 1991; Collier, 1999; Dart et al., 1998; Fajet, 2005; Foss and Kleinsasser, 1996; Gore and Zeichner, 1991; Haritos, 2004; Harrington and Hertel, 2000; Hatton and Smith, 1995; Hill, 2000; Johnson, 1994; Joram and Gabriele, 1997; Long and Stuart, 2004; Macnab and Payne, 2003; Mahlios and Maxson, 1995; Mallette et al., 2000; McGovern, 2000; Moore, 2003; Pugalee, 1999; Roberts et al., 2001; Russell, 1988; Sillman and Dana, 1999; So and Watkins, 2005; Stuart and Thurlow, 2000; Sugrue, 1997; Tillema, 1995; Virta,

2002; Ward and McCotter, 2004; Weinstein, 1990; Younger et al., 2004). This literature though does not use the term theories in use. This is because it refers to beliefs related to teaching which were reported by student teachers. These beliefs were gathered through means such as questionnaires, interviews or journals. This research neither examines whether these beliefs are only espoused (reported) or theories in use (unconscious beliefs and assumptions which underpin actions). This is because this issue was not an aim of this research literature. These student teachers' beliefs however, in most of these studies, were collected not only before, but also during and after the students' participation in teaching experience. Only the student teachers in the studies by Haritos (2004), Joram and Gabriele (1997) and Pugalee (1999) did not take part in teaching experience. This fact leads me to the assumption that these student teachers might have referred to their teaching experience or at least underpinned their thinking on their teaching experience when they reported their beliefs. Consequently these beliefs might also reflect theories in use. This is because theories in use are present in the words one uses to refer to one's own experiences (Argyris and Shön, 1974; Brockbank and McGill, 1998; Day, 1985, 1993, 1999; Ghaye and Ghaye, 1998; Osterman and Kottkamp, 1993; Rodgers, 2002; Woodcock et al., 2004).

A large body of research indicates that future teachers develop beliefs about teaching prior to entering initial training. There is research which reports that teachers' prior beliefs can be counterproductive to the critical examination of practice (Collier, 1999; Gore and Zeichner, 1991; Hatton and Smith, 1995; Johnson, 1994; Moore, 2003; Russell, 1988; Ward and McCotter, 2004); oversimplified in relation to classroom practices (Ball, 1990; Foss and Kleinsasser, 1996; Johnson, 1994) or restricted

towards the complexity of the task of teaching and the nature of classroom practices (Younger et al., 2004); unrealistic in order to overcome issues concerning survival, pupils and the teaching situation (Haritos, 2004); emphasizing traditional notions of teaching such as teacher centered approaches, control and dominance (Johnson, 1994; Sugrue, 1997); and affective and interpersonal traits over cognitive goals (Fajet, 2005; Mahlios and Maxson, 1995; Sugrue, 1997; Virta, 2002; Weinstein, 1990).

Research is controversial however, on whether these beliefs can change. There is research which reports that teachers' prior beliefs can affect knowledge acquisition (Aitken and Mildon, 1991; Calderhead and Robson, 1991; Foss and Kleinsasser, 1996; Johnson, 1994; Mallette et al., 2000; Tillema, 1995) and that they can be resistant to change (Aitken and Mildon, 1991; Foss and Kleinsasser, 1996; Johnson, 1994; Weinstein, 1990, Virta, 2002). There is also research which reports not only stability in student teachers' prior beliefs, but also change from beliefs which can be counterproductive to teaching to beliefs which are more likely to boost learning (Ambrose, 2001; Ackley et al., 1999; Bell, 2001; Dart et al., 1998; Harrington and Hertel, 2000; Hill, 2000; Joram and Gabriele, 1997; Long and Stuart, 2004; McGovern, 2000; Pugalee, 1999; Roberts et al., 2001; Sillman and Dana, 1999; So and Watkins, 2005; Stuart and Thurlow, 2000). In addition, there is research by Macnab and Payne (2003) which reports change from student teachers' beliefs, which are constructivist (e.g. favouring problem solving activities, open ended investigations, applying new knowledge in unfamiliar contexts, etc.) to beliefs which are more traditional (e.g. learning mathematical facts and mental methods of calculation).

I would argue that the factor that must have differentiated the outcomes of the above studies is the engagement of student teachers in reflection on their beliefs. The student teachers, who took part in studies which report change towards beliefs which are more likely to boost learning, were systematically involved in reflection on beliefs about their current and future practice. In this way the student teachers must have become aware of discrepancies between espoused beliefs and theories in use or between actions and outcomes. As a result they began to change some of their beliefs. In the research where no change has been reported, reflection on present or future practice was not part of the attended course. Consequently the theories in use of these student teachers must have remained the same. In the study by Macnab and Payne (2003), where changes towards more traditional views were reported, reflection on practice was also absent. This leads me to the assumption that the student teachers in these studies may have changed their espoused beliefs by entering a course which focused on constructivist views. By going to teaching practice however, they must have experienced traditional methods of teaching. Consequently theories in use, these student teachers might have in favour of traditional teaching methods, must have been reinforced. Relevant to this discussion are the conclusions of Yost et al. (2000) and Wideen et al. (1998), who have reviewed studies concerning learning to teach. Yost et al. (2000) stress that the education programmes, which report changes towards more effective beliefs about teaching, emphasized the examination of pre-service teachers' experiences and beliefs. Wideen et al. (1998) claim that student teachers must be assisted in examining their beliefs. They stress that all the players in the process of learning to teach (e.g. university supervisors, school supervisors, cooperating teachers, etc.) must assist student teachers to examine beliefs and support them to implement new practices, consistent with changed beliefs.

The findings of the studies mentioned in the above paragraphs cannot be generalized for the pre-service students of the countries, where these studies took place. This is because the number of the pre-service teachers who took part is not representative of the pre-service teachers in these countries. In addition these findings refer to a different educational context than this of Cyprus (Australia, Canada, Europe, Hong - Kong, USA). Furthermore I do not have adequate information to compare the educational programmes in these countries and those in Cyprus. Neither do I have adequate information to compare the educational background of pre-service teachers in these countries and the educational background of pre-service teachers in Cyprus. I have information only about which teacher education programmes included systematic reflection on beliefs. I must also mention that the teacher education programmes in the above studies prepare teachers for both primary and secondary education. The changes in beliefs, reported by many of the above studies, were measured through means such as questionnaires, interviews or student teachers' own writing. These means cannot confirm whether these espoused changes (changes which are reported) were also changes in theories in use. A means to confirm this could be observational analysis of student teachers' practice at the end of a study. This took place in the study by So and Watkins (2005). An additional means could be follow-up research on whether the reported changes in beliefs became part of these teachers' future practice. Only Stuart and Thurlow (2000) however, recognize the need for follow-up research into the practice of the student teachers of their sample.

Despite the above issues, I have presented these studies because, as I have discussed earlier in this section, they may present not only espoused theories but also theories in use. In addition these studies show that in any educational context primary or

secondary school teachers may develop beliefs or theories in use, which can limit professional development, before entering initial training. Furthermore these studies show that resistant beliefs can change after engaging in dialogical reflection.

5.3.3 The form of professional exchange which is associated with substantial change

The form of professional exchange, which has been revealed by the analysis of the interviews to be associated with substantial change in practice, was not one of dialogical reflection, as described in the literature review. In this form of professional exchange the Cypriot primary school teachers had already evaluated their practice and asked for a different suggestion. The teachers did not ask their colleagues to evaluate or question aspects of their practice because they might not know that this could boost awareness of their theories in use. In addition they might feel uncomfortable to make themselves vulnerable to their colleagues' judgement. As I have discussed in subsection 5.2.2 teachers with 12-18 years of teaching experience consider trust as the primary factor to determine whether they will engage in professional exchange. Due to this they might feel more comfortable to evaluate their practice themselves instead of running the risk of being negatively evaluated by a colleague.

Asking colleagues for suggestions of how to teach more effectively, is consistent with the belief of Cypriot primary school teachers, that colleagues can be a source of learning. This belief was revealed when they discussed reflection with colleagues

(see Findings, subsection 4.2.1 and Appendix B parts 4 and 11.1). All the Cypriot teachers claimed that colleagues can provide useful knowledge. The form of professional exchange, associated with substantial change, reveals that this espoused belief is also a theory in use. If the Cypriot teachers had a different theory in use their discussions might have a different form.

Despite not having the form of dialogical reflection, these teachers' professional exchange led to substantial changes in practice probably because of the following factors:

- a) Quality suggestions. The provided suggestions helped teachers act either on more suitable theories in use or more in line with espoused beliefs. One reason, why quality suggestions were provided, must be that the teachers, who asked for suggestions, asked for different teaching approaches. In addition the fact, that they had evaluated their teaching approaches as unsuccessful, must have forced further their colleagues to think of approaches that differed from the unsuccessful ones. Another reason must be the expertise of the teachers who provided the suggestions. Many teachers said that they usually discuss their practice with colleagues who have expertise in the teaching of the same grade. Due to their expertise the teachers, who provided the suggestions, must have knowledge of alternative and effective ways of teaching the topics under discussion.
- b) Dissatisfaction with practice. As I have argued in the literature review, suggestions alone may not change one's practice. They may only change what

one espouses. Real change in behaviour takes place when theories in use change (Argyris and Shön, 1974; Brockbank and McGill, 1998; Osterman and Kottkamp, 1993). In this study the Cypriot primary school teachers, who were given the suggestions, were feeling dissatisfied with their classroom behaviour. This means that they were feeling dissatisfied with their theories in use. This is because theories in use are beliefs in the unconscious which underpin practice. As an outcome they are reflected in teachers' practice. The teachers however, might have not been aware of what kind of discrepancy was responsible for their unsuccessful practice. Despite this, dissatisfaction must have made them ready to adopt new theories in use and change their practice (actions). Relevant to this discussion is the claim by Osterman and Kottkamp (1993) that without the realization that a problem exists with one's behaviour, the individual may not personalize new information or ideas in order to make the connection between the criticism and his or her own behaviour.

- c) Awareness of one's theories in use. An additional reason why the above suggestions have the potential to transform practice must be that they were given after the teachers provided descriptions of their practice. Although brief, these descriptions must have increased the teachers' awareness of theories in use which underpinned their described practice. As I have discussed in the literature review, one can become aware of the theories in use that underpin one's practice by talking about it (Argyris and Shön, 1974; Brockbank and McGill, 1998; Day, 1985, 1993, 1999; Ghaye and Ghaye, 1998; Osterman and Kottkamp, 1993; Rodgers, 2002; Woodcock et al., 2004). The reason is that theories in use are present in the words one uses to describe

one's actions. Awareness of theories in use is a basic step towards substantial change, whether discrepancies exist between espoused beliefs and actions (practice) or between actions and outcomes. In the first case unsound and deeply ingrained theories in use prevent action being underpinned by espoused beliefs. In the second case espoused (reported) beliefs and theories in use are aligned, but they are unsound. In either case awareness of unsound theories in use is necessary for change in behaviour. "Awareness is the basis for change" (Osterman and Kottkamp, 1993, p. 16). I would argue however, that this awareness would have increased, if Cypriot primary school teachers had engaged in dialogical reflection with their colleagues about their practice. Through such discussions colleagues might challenge them to reflect even further on probable discrepancies between espoused beliefs and actions or between actions and outcomes. Despite this a certain degree of awareness must have been achieved. Awareness of theories in use and dissatisfaction with practice must have made Cypriot primary school teachers ready to adopt new theories in use and get in a process of change.

After presenting the above factors I will argue that it is their synergistic action that allowed the Cypriot primary school teachers' professional exchange to promote substantial change in practice. If one of the above factors was missing substantial changes in practice might not be possible. Quality suggestions alone cannot transform practice. They may only change espoused theories (what teachers say about their practice). Dissatisfaction with one's practice may not necessarily lead to substantial changes in practice, but to minor modifications. The reason is that one must know how to reflect critically on practice in order to develop more suitable

alternatives. Even if one is dissatisfied with one's practice and has received quality alternatives, awareness of unsound theories in use is necessary. Without this awareness, unsound theories in use may still get in the way of implementing suggestions which are based on more suitable theories in use.

5.4. REFLECTIVE PRACTICE AND GOALS

In this section I examine the mismatch between the themes of reflection of the Cypriot primary school teachers and their goals for professional development. The aim of this study is to find out more about how Cypriot primary school teachers promote their professional development through reflective practice. Consequently it is very important to examine why they do not consider the themes of their reflections to be worthy of underpinning their professional development in the long run.

After analysing the interview data I found out that the themes of reflection of the Cypriot primary school teachers and their professional development goals did not match. The majority of the teachers' goals refer to general methodology objectives such as time management and lesson planning that aims to maximize pupils' participation. The themes of their reflections however, refer to the teaching of specific topics in subjects of particular grades (e.g. fractions in the mathematics of grade 4). If the Cypriot primary school teachers used to engage in further reflections, after finding a solution to problems concerning the teaching of these topics, they

would have set the teaching of these topics as long-term goals. The fact however, that they have not set the themes of their reflections as long term goals, reveals that perhaps they gave up reflecting on these topics after they reached the first satisfactory solution.

The Cypriot primary school teachers do not set the themes of their reflections as long term goals for professional development probably because of their understanding of professional development as the receipt of knowledge from official authorities. In the Cypriot educational system the opportunity to receive knowledge from official authorities on the teaching of specific topics is limited. An official representator of the policy of the Ministry of Education and Culture (MOEC) is the inspector. The inspector's involvement with evaluation however, discourages teachers from engaging in discussions about practice with them. The Pedagogical Institute is another source of knowledge which is officially approved by the MOEC. The seminars however, which are organized by the Pedagogical Institute, do not usually focus on the teaching of specific topics in subjects of particular grades. Instead they have a more general nature. In addition the Cypriot educational system does not employ advisors, who could visit schools on teachers' request, in order to discuss the teaching of various topics. If such advisors were employed in the Cypriot educational system, primary school teachers would know that they have a source of officially approved knowledge to turn to in order to continue their reflections.

Furthermore the Cypriot teachers may be motivated to set goals for professional development, which mainly focus on general methodology, because this methodology applies to the teaching of all subjects. Primary school teachers teach a variety of

subjects such as mathematics, science, language, history, geography etc. Consequently by focusing on general methodology issues, they promote their effectiveness in the teaching of various subjects.

An additional reason for the mismatch between the themes of the Cypriot primary school teachers' reflections and their goals for professional development may be the pressure of time to teach a variety of topics and subjects in each grade of the Cypriot primary school. In the Cypriot educational system the Ministry of Education and Culture (MOEC) prescribes which topics must be taught in each subject of a grade. Due to the variety of topics and subjects Cypriot primary school teachers have to constantly move from one topic to the other in order not to fall behind the time schedule. This means that even if they are reflecting on the teaching of a particular topic, after a while they may have to proceed with the teaching of another topic which is prescribed. If the teaching of the next topic generates various problems, then they will turn their attention to this. As a result their previous reflections will stop. In this way the variety of topics and time pressure, through the MOEC prescriptions, may stop the teachers' reflections on a particular topic.

Summary of chapter

In this chapter I have suggested that a preoccupation with official authorities, mainly the MOEC, as a source of up to date and correct knowledge, discourages Cypriot

primary school teachers from considering reflective practice as a form of professional development. I have argued that this preoccupation may be an outcome of the way professional development is promoted in the Cypriot educational system. I have also argued that this preoccupation may be caused from the fact that the knowledge which Cypriot primary school teachers develop from practice, does not seem to be officially valued. In addition I have examined the Cypriot primary school teachers' forms of reflection. I have argued that demands of evaluation drive the Cypriot primary school teachers to focus on reflection between actions (practice) and outcomes. I have argued that demands of evaluation may also be the underlying reason why reflection between espoused beliefs and actions is limited to beliefs about teaching methods. Furthermore I have proposed that this may be due to relevant knowledge which is provided in the Cypriot educational system to the primary school teachers. I have explored why lack of trust discourages Cypriot primary school teachers with 12-18 years of teaching experience from promoting their professional development through reflective practice with other colleagues. I have hypothesized that theories in use, which prevent professional development through reflective practice, may develop even before teachers enter initial training. I have also hypothesized that these theories in use may continue to underpin teachers' practice if they remain unexamined. I have examined the form of the Cypriot primary school teachers' professional exchange which was revealed by the analysis of the interviews to be associated with substantial change in practice. I have argued that this form of professional exchange must have promoted their professional development because of the synergistic action of the following factors:

- a) quality suggestions;
- b) dissatisfaction with practice;

c) awareness of theories in use.

Finally I have examined why the Cypriot primary school teachers did not underpin their long term goals for professional development on the themes of their reflections.

In the next chapter I will present the conclusions of this study and I will provide recommendations for future research. In addition I will evaluate the research design. Finally I will discuss the implications of this study about the professional development of Cypriot primary school teachers.

CHAPTER 6: CONCLUSIONS

In this chapter I present the conclusions of this study. The conclusions illuminate the following:

- 1) the Cypriot primary school teachers' understanding of professional development and reflective practice;
- 2) the effect of the Cypriot teachers' lack of awareness of reflection between espoused beliefs and practice on their professional development;
- 3) the factors that determine the Cypriot primary school teachers' ability to promote professional development through reflective practice;
- 4) the effect of lack of professional exchange, about one's own practice, on theories in use that prevent change and development;
- 5) the factors which allowed professional exchange, which was not a form of dialogical reflection, to lead to substantial change in practice;
- 6) the effect of the Cypriot primary school teachers' need for trust on their professional development;
- 7) the effect of the inspectors' responsibility for the evaluation of Cypriot primary school teachers on the latter's professional development.

I continue with recommendations for future research and an evaluation of the research design. Finally I discuss the implications of this study.

6.1 Conclusions and recommendations

In this study I have been able to show that Cypriot primary school teachers do not consider reflective practice as a form of professional development. Although they systematically promote their professional development through reflective practice, they link professional development with knowledge provided by official authorities. Data revealed that the Cypriot primary school teachers do not refer to reflection on practice when they discuss professional development. Instead they interpret professional development as the receipt of knowledge from official authorities, mainly the Ministry of Education and Culture (MOEC). In addition there is a mismatch between the Cypriot teachers' long term goals for professional development and the focus of their reflections. The teachers set goals which differ from the themes of their reflections and which can be fulfilled through official authorities.

The above conclusion could be further explored through case studies with Cypriot primary school teachers of different teaching experience. These case studies would need to take place over at least one academic year. If the Cypriot primary school teachers reported their weekly reflections, their professional growth goals, and how they fulfilled these goals, rich data would be obtained about both the themes of the Cypriot teachers' reflections and their professional growth goals.

Cypriot primary school teachers consider reflective practice as a means of achieving better outcomes. I have drawn this conclusion after considering the following data:

- a) the aspects of practice that prompt Cypriot primary school teachers to engage in reflection refer to outcomes;

- b) the main form of reflection they use to engage in is reflection between practice and outcomes.

This conclusion could be further explored through interviews with a representative sample of Cypriot primary school teachers of different teaching experience. Such research could confirm this conclusion or enrich it with more information.

I was also able to show that lack of awareness of the process of reflection between espoused beliefs (beliefs which are reported) and practice limits professional development. This is because this unawareness allows discrepancies between espoused beliefs and practice to remain unexamined. The analysis of the data revealed that the Cypriot primary school teachers engage in this kind of reflection only when they are concerned about the implementation of teaching methods. In addition it revealed that what the Cypriot teachers espouse (report to believe in) about change in practice may not always be in line with their actions. The reason is that the theories in use, which underpin their actions, differ from what they espouse. This discrepancy between actions and espoused beliefs shows that the teachers are unaware of these theories. It also shows that they may remain unaware of these theories if they never engage in reflection between actions and espoused beliefs about aspects of their practice other than teaching methods. Further research could be undertaken through observation and interviews in order to confirm the existence of these discrepancies or identify further discrepancies. Identification of these discrepancies would be useful to professionals who promote the professional development of Cypriot primary school teachers.

The Cypriot primary school teachers' ability to bring about substantial change in practice depends on the combined action of the following three factors:

- a) length of teaching experience;
- b) theories in use;
- c) professional exchange.

I have based this conclusion directly on data which revealed that long teaching experience alone may not lead to substantial change in practice. Instead the data revealed that length of experience must be accompanied by theories in use which drive towards the critical examination of practice. It must also be accompanied by professional exchange about one's own practice. This conclusion could be further explored through case studies with Cypriot primary school teachers of different teaching experience.

The lack of professional exchange about one's own practice allows theories in use (unconscious beliefs), which drive against substantial change, to remain unsurfaced. The analysis of the interviews revealed an association between insubstantial change and lack of professional exchange about one's own practice. This shows that the Cypriot teachers are likely to remain unaware of unsound theories in use if their practice remains private. I made the hypothesis that these theories in use could have been formed before these teachers entered the profession. I based this hypothesis on data which revealed that the Cypriot primary school teachers, whose practice is underpinned by such theories in use, belong to all age groups. Furthermore I hypothesized that these theories in use may continue to underpin teachers' practice by the end of their career if they do not engage in discussions with colleagues about their own practice. Data, which led me towards this hypothesis, revealed an association

between theories in use (unconscious beliefs) that limit change and lack of professional exchange. Further research is necessary in order to confirm whether these two hypotheses are true. Such research could show whether the theories in use, which were revealed by this study to limit the Cypriot primary school teachers' professional development, are pervasive only in this sample or whether there are other theories in use which limit professional development. Knowledge of the main theories in use that limit Cypriot primary school teachers' professional development would be useful to professionals who are responsible for professional development.

Professional exchange, which was not a form of dialogical reflection, led to substantial change in practice due to the synergistic action of the following factors:

- a) quality of suggestions;
- b) dissatisfaction with theories in use;
- c) awareness of theories in use through descriptions of practice.

I have drawn this conclusion after analysing data about how Cypriot primary school teachers approached their colleagues in order to ask for help and data about the kind of help they were given. The Cypriot teachers provided to their colleagues brief descriptions of practice they had evaluated as unsatisfactory. Then they asked for different suggestions. Their colleagues provided quality suggestions due to their experience and the need to provide different teaching approaches. The teachers must have been ready to implement these suggestions because of their dissatisfaction with their practice. In addition the brief descriptions of practice, they provided to their colleagues, must have boosted their awareness of their theories in use. Consequently they were aware of what they should change in their practice. Further research could

provide more details about how Cypriot primary school teachers' discussions take place and of the kind of help they receive from each other.

The need of teachers with 12-18 years of teaching experience for trust limits opportunities for professional exchange with colleagues. The analysis of the interviews revealed that these teachers will not discuss their practice with colleagues unless they trust them. As an outcome the need for trust limits these teachers' opportunities for professional exchange.

The responsibility of Cypriot primary school inspectors for teachers' evaluation limits their impact on the teachers' professional development. The data revealed that the fear of a negative evaluation discourages the teachers from discussing with inspectors their practice or the suggestions given to them by the inspectors. In this way the potential for professional learning, that could be derived from joint engagement with inspectors in the discussion of practice, is minimized.

Overall I have been able to draw many conclusions which offer insight into the use of reflection by the Cypriot teachers in my study. To summarize, the promotion of professional development through reflective practice is limited by:

- a) partial awareness of the process of reflection between espoused beliefs and practice;
- b) lack of professional exchange about one's own practice;
- c) the need for trust of teachers with 12-18 years of teaching experience;
- d) the involvement of inspectors with evaluation .

Instead professional development is boosted when the following factors co exist:

- a) length of teaching experience;
- b) theories in use that drive towards the critical examination of practice;
- c) professional exchange about one's own practice.

I have made hypotheses about the development of theories in use which prevent change and about conditions which can allow these theories in use to remain unchanged. I have made recommendations about further research concerning: the themes of Cypriot primary school teachers' reflections and their long term goals for professional development; the Cypriot primary school teachers' understanding of reflective practice; the identification of discrepancies between espoused beliefs and practice; the factors which can determine the Cypriot primary school teachers' ability to promote professional development through reflective practice; the development of Cypriot primary school teachers' theories in use; and their professional exchange.

6.2 Evaluation of the research design

The strength of this research design is that I chose the research methodology after examining which of the paradigms, that underlie the two main methodologies currently used in research (qualitative and quantitative), would best address my research questions. The depth of understanding needed to answer my research questions required qualitative methods of data collection. I gathered in-depth information from Cypriot primary school teachers' interviews. The interviews were recorded and transcribed. This contributed to the richness of the data because no data

was lost. In addition the recording and transcription of the interviews contributed to the accuracy of the data because they provided the exact responses of the participants. The thick descriptions, which were provided through the interviews, provide the readers sufficient information about the Cypriot primary school teachers' reflections, including contextual information. In this way readers are allowed to judge whether the findings of this study are relevant to their own situation.

This research allowed the identification of discrepancies between teachers' espoused (reported) theories and theories in use. I identified these discrepancies after I had compared the Cypriot primary school teachers' espoused beliefs about how they change their practice with illustrations from this practice. If I had asked the teachers to provide their views without illustrations from practice, I might have not identified these discrepancies.

One limitation is that I cannot know whether what the Cypriot primary school teachers said in the interviews is the truth. In addition the fact that I am a primary school teacher might have made the teachers feel that they should present a good image. In addition some teachers might fear that I would not keep their responses private, despite my assurance of the opposite. This fear might have made them present a better image of themselves.

The fact that I translated the interviews from Greek into English might be another limitation. Sometimes it is not easy to find an exact translation of words or phrases from one language to another. Due to this some translations might have failed to show the exact meaning of words or phrases of the original text.

The categorization of Cypriot primary school teachers' illustrations of practice into substantial or insubstantial changes, was an outcome of my own interpretation. In order to make these interpretations I had to use my fourteen year experience as a primary school teacher. Other teachers however, might have a different opinion. An answer to this question might be given if other Cypriot primary school teachers, with either the same or more years of experience, interpreted the same findings.

Overall the strengths of the research design include:

- a) the choice of research methodology;
- b) the choice of research method;
- c) rich data from recorded and transcribed interviews;
- d) the fact that the thick descriptions allow readers to judge the relevance of the findings to their own situation;
- e) the identification of discrepancies between teachers' espoused theories' and theories in use.

The limitations referred to:

- a) the absence of guarantee of whether responses are frank;
- b) the translation of the interviews from Greek into English;
- c) the use of my own interpretation in order to categorize the teachers' illustrations of changes in practice.

6.3 Implications

In order to emphasize the importance of reflective practice Cypriot primary school teachers could be given opportunities to value the knowledge they develop from reflection. Opportunities to make this knowledge public would give them this message. The Cypriot teachers could present the knowledge they develop from practice in forums or gatherings of teachers of an area. They could also publish articles about their practice in Cypriot educational journals. Furthermore this knowledge could play part in teachers' evaluation if they wished to. For example Cypriot primary school teachers could keep diaries with reflections and solutions they reached to be presented and discussed with evaluators. In addition the Cypriot educational system should provide means of bringing together knowledge from practice and knowledge from official authorities in order to promote professional development. One such means could be the joint engagement of teachers and counselors, appointed by the MOEC, in the reflective examination of practice. Another such means could be workshops where Cypriot primary school teachers discuss their own practice and enrich it with knowledge from official sources or other colleagues.

This study has shown that Cypriot primary school teachers would benefit from the knowledge gained from reflection between espoused beliefs and practice. This knowledge can help them meet relevant discrepancies. In this study I have shown that these discrepancies can limit professional development when they remain unexamined. In these cases, actions are based on unsound theories in use which differ from what one espouses. In order to change these theories Cypriot primary school

teachers must learn to identify discrepancies between espoused beliefs and practice as early as possible in their career. Beginner teachers, as well as teachers with longer teaching experience, can develop this ability by engaging in discussions about their practice with colleagues or other professionals who are knowledgeable about the reflective examination of practice and especially the identification of the above discrepancies. It may however, be more difficult for more experienced teachers to change theories in use because these build up and solidify in the unconscious as time passes (Osterman and Kottkamp, 1993). Despite this, the joint engagement with colleagues or other professionals in the reflective examination of practice can give teachers an opportunity to become aware of their theories in use. I would argue that this awareness can be an essential step for substantial change at any point in a teacher's career.

The value of dialogical reflection was revealed in this study. The findings showed that the teachers, who managed to bring about substantial change in practice, discussed this practice with colleagues. The teachers, who initiated these discussions however, did not examine their practice with colleagues. They examined and evaluated their practice privately. In their discussions they used to present these evaluations in order to ask for alternative approaches. Knowledge of how to engage in dialogical reflection can be a boost for teachers to stop examining practice privately. Examination of practice with colleagues through dialogical reflection can help teachers increase the awareness of their theories in use. The more teachers discuss their practice, the greater the possibility they have to become aware of their theories in use. As I have discussed in the literature review, theories in use are present in the words one uses to describe practice (Osterman and Kottkamp, 1993).

Furthermore aspects of practice, that might have been ignored through private examination, may come to the surface. Consequently Cypriot primary school teachers can become aware of discrepancies between espoused beliefs and practice, which might have remained unidentified.

Knowledge of how to engage in dialogical reflection can be helpful to teachers in cases where they are blind to the impact of their actions (Osterman and Kottkamp, 1993). There are times that people may realize that the outcomes of their actions are unsatisfactory and yet they may continue to act in the same way. The reason is that the unsound theory in use, which underpins this behaviour, is so deeply ingrained in people's unconscious that people cannot evaluate it. Due to this they cannot understand that it is this behaviour that must change in order to achieve better outcomes. In these cases people need to develop an understanding of the relationship between these unsound theories in use and unsatisfactory outcomes. Dialogical reflection can help them develop this understanding and change.

In addition the dialogical way of reflection has the potential to bring about changes in practice, even in cases where no dissatisfaction has been perceived. At present, the Cypriot primary school teachers discuss aspects of practice for which they feel intense dissatisfaction. Reflection with colleagues can draw attention towards examining whether the outcomes of one's practice are what one intended. Such an examination can show whether outcomes could have been improved, even in cases where outcomes might be considered satisfactory through one's private examination. It is then that dissatisfaction with one's behaviour will begin. This will lead to an effort to

find ways of teaching, which will be based on different theories in use, in order to achieve better outcomes.

The professional development of Cypriot teachers might be benefited if the responsibilities of the primary school inspectors were separated from professional development. A finding of this study is that the teachers do not use to discuss with inspectors their practice or different opinions. The reason for this is fear of a negative evaluation. This finding shows that Cypriot primary school teachers would feel more comfortable to discuss their practice with professionals who cannot affect their evaluation.

The professional development of Cypriot primary school teachers could be boosted if organizational environments positive towards developmental needs were established in Cypriot primary schools. In the findings chapter I have discussed that the Cypriot primary school teachers with 12-18 years need to be sure that their developmental needs will not be considered as weaknesses by the colleagues they discuss practice with. Although whom each teacher trusts is a personal issue, it is important that this message be promoted in Cypriot primary schools. It can be promoted through circulars by the Ministry of Education and Culture; the head teachers; and the inspectors. Such messages by the inspectors however, may not seem credible to Cypriot primary school teachers. This is because of their involvement with evaluation.

In summary the Cypriot primary school teachers could be benefited from opportunities to:

- a) value the knowledge they develop from practice;
- b) acquire knowledge of reflection between espoused beliefs and practice and of dialogical reflection;
- c) become aware of discrepancies between espoused beliefs and practice which remain unexamined;
- d) discuss practice with professionals who are not involved with their evaluation;
- e) work in organizational environments positive towards developmental needs.

6.4 Final Concluding Statement

In this study I have discussed how Cypriot primary school teachers systematically promote their professional development through reflective practice. The teachers do not however, consider reflective practice as a form of promoting professional development. The reason is that they interpret professional development as the receipt of knowledge from official authorities, mainly the Ministry of Education and Culture. Because of this interpretation their reflections do not follow a cyclical process. Neither do their goals for professional development focus on themes, which arise from their reflections. Instead their long term goals for professional development focus on objectives which can be fulfilled through official authorities. In addition I have found that Cypriot primary school teachers mainly engage in reflection between actions (theories in use) and outcomes. This shows the importance they attach to achieving effective outcomes. On the other hand partial awareness of reflection between espoused beliefs and practice limits professional development.

This is because it causes discrepancies between espoused beliefs and practice to remain unexamined. Furthermore lack of professional exchange about one's own practice allows theories in use, which drive against the critical examination of practice, to remain unsurfaced. The Cypriot primary school teachers' ability to bring about substantial changes in practice was determined by factors such as:

- a) length of teaching experience;
- b) theories in use that drive towards the critical examination of practice;
- c) professional exchange about one's own practice.

Finally the kind of professional exchange, which was associated with the Cypriot primary school teachers' ability to promote professional development through reflective practice, was determined by the synergistic action of the following factors:

- a) quality suggestions;
- b) dissatisfaction with theories in use;
- c) awareness of theories in use through descriptions of practice.

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APPENDIX A

HOW PRIMARY SCHOOL TEACHERS PROMOTE THEIR PROFESSIONAL DEVELOPMENT THROUGH REFLECTIVE PRACTICE

INTERVIEW SCHEDULE

- | | |
|---|---|
| 1.a) Please tell me your views of teachers' professional development? | 1.b) How do you manage your own professional development? |
| 2.a) How important is it for teachers to critically reflect on their practice? | 2.c) Do you critically reflect on your practice? |
| 2.b) How often do you think teachers should reflect on their practice? | 2.d) How often? |
| | 2.e) How do you reflect on your practice? |
| | 3. What evidence do you use in order to reflect on your practice? |
| | 4. How do you interpret the evidence you use? |
| 5.a) Do you think teachers have pedagogical principles, theories of learning or personal values, beliefs and assumptions on which they base their teaching? | 5.b) Which pedagogical principles and theories of learning, values, beliefs and assumptions underpin your teaching? |
| 6.a) How important is it that teachers reflect on whether their teaching is underpinned by the pedagogical principles, theories of learning or other values, beliefs and assumptions that they espouse? | 6.b) Do you reflect on whether the pedagogical principles and theories of learning that you espouse underpin your teaching? |

- 7.a) How important is it that teachers examine whether the outcomes of their teaching are what they expected?
- 7.b) Do you reflect on whether the outcomes of your teaching are what you expected?
- 8.a) How important is it that reflection on practice be the basis for setting goals for professional development?
- 8.b) Do you set goals for professional development which are underpinned by your reflections on your practice?
- 9.a) How important is reflection on practice with a colleague?
- 9.b) Do you use to reflect on practice with colleagues?
- 9.c) If you do, what evidence do you examine with your colleagues?
- 10.a) How important is it that teachers reflect, with colleagues, on whether their practice is underpinned by the pedagogical principles they espouse?
- 10.c) How important is it that colleagues observe each others' practice before they examine whether pedagogical principles, theories of learning or other beliefs and assumptions, they espouse, underpin their practice?
- 10.b) To what degree can teachers help each other examine whether practice is based on the pedagogical principles, theories of learning, other values, beliefs and assumptions they espouse, when they provide descriptions of this practice?
- 10.d) Do you reflect with colleagues on whether your practice is underpinned by the principles you espouse?
- 11.a) How important is it that reflection between expected and actual outcomes of one's practice, takes place with colleagues?
- 11.c) Do you reflect with colleagues on whether the outcomes of your teaching are what you expected?

11.b) How important is it that colleagues observe you teach, before you examine together whether the outcomes you achieve are what you expected?

11.d) Are there colleagues, who observe you teach and then discuss with them whether the outcomes of your practice are what you expected?

12. What characteristics must colleagues, with whom you would like to engage in the reflective examination of your practice, have?

13.a) What do you think must teachers do when external frameworks and requirements for teaching as well as models of teaching are imposed?

13.b) Have you ever been in such a situation?

13.c) What did you do?

14.a) Comment on whether the following attitudes are important for teachers who engage in the reflective examination of their practice?

14.d) To what extent do these attitudes represent your own attitudes?

- 1) Whole heartedness – strong desire to develop.
- 2) Responsibility for the outcomes of one's practice.
- 3) Open-mindedness to new suggestions.

APPENDIX B

APPENDIX B

INTERVIEW OUTCOMES

1. VIEWS TOWARDS PROFESSIONAL DEVELOPMENT

1.1 Teachers 17-18 years

a. Learning new knowledge

Four of the six teachers (A1, A2, A3, A4) of the above group claimed that professional development is a process of learning new knowledge:

“Teachers need to keep developing professionally. When I got appointed computers were not used in the primary school. Now not only must I know how to use them, but I must also use them in class”

(Teacher A1, 18 years experience)

“Teachers must keep getting informed about educational developments.”

(Teacher A2, 18 years experience)

“Teachers must keep learning about new developments concerning teaching in order to promote their professional development”.

(Teacher A3, 17 years experience)

“You must not stay with the knowledge you have acquired at the University. Knowledge keeps developing... you must keep on learning about developments in education.”

(Teacher A4, 18 years experience)

b. Change and development:

Two teachers (A5, A6) view professional development as a process of change and development:

“It is a continuous process of development with various means (e.g. books, seminars, journals) in order to promote effective teaching and learning”.

(Teacher A5, 18 years experience)

“Teachers must find various ways of developing professionally. Otherwise they will keep repeating themselves.”

(Teacher A6, 18 years experience)

1.2 Teachers 12-13 years

a. Learning new knowledge:

Three teachers (B2, B4, B5) of the above group claimed that professional development is a process of learning new knowledge:

“Teachers must keep learning new knowledge about teaching in order to develop professionally.”

(Teacher B2, 13 years experience)

“Professional development demands learning about new developments in education. E.g. the use of computers...”

(Teacher B4, 12 years experience)

“It is necessary that teachers keep getting informed about new developments in education. E.g. new approaches.”

(Teacher B5, 13 years experience)

b. Change and Development

Three teachers (B1, B3, B6) claimed it is a process of change and development:

“Professional development is a process of becoming more effective in order to achieve better outcomes. One way to do this is by reflecting on your own practice in order to identify your developmental needs and think of how you can meet them. Other ways are to attend seminars, read journals or attend M.A. courses in order to enrich your knowledge where you have developmental needs.”

(Teacher B1, 13 years experience)

“Teachers can promote their professional development by attending seminars about how to teach more effectively...”

(Teacher B3, 13 years experience)

“It is a process of improving professionally through various means such as seminars, M.A. courses, cooperation with colleagues, journals, etc...”

(Teacher B6, 13 years experience)

1.3 Teachers 1-2 years

a. Learning new knowledge

Four teachers (C2, C3, C5, C6) claimed that professional development is a process of learning new knowledge:

“It is necessary that teachers keep getting informed about new developments in education.”

(Teacher C2, 2 years experience)

“There are continuously new developments and research findings about how pupils learn. Teachers, who aim to develop professionally, must keep learning about these.”

(Teacher C3, 1 year experience)

“Teachers who aim to develop professionally must get informed about new technologies and new methods that can be used in teaching.”

(Teacher C5, 1 year experience)

“Teachers must keep learning about innovations, which are introduced in our system or other developments in education.”

(Teacher C6, 1 year experience)

b. Change and development

One teacher (C4) claimed that professional development is a process of development:

“Professional development is about developing professionally in order to become more effective...”

(Teacher C4, 2 years experience)

c. Unnecessary

One teacher (C1) claimed that professional development is unnecessary:

“After graduating from the University teachers are fully qualified in order to teach. I do not believe they need any further education...”

(Teacher C1, 1 year experience)

2. MEANS TO PROMOTE PROFESSIONAL DEVELOPMENT

a. Seminars by the Pedagogical Institute

All the teachers mentioned that they promote their professional development through seminars by the Pedagogical Institute:

“Whenever the Pedagogical Institute organizes seminars in topics of my interest, I attend them.”

(Teacher A1, 18 years experience)

“I usually try to find out whether seminars by the Pedagogical Institute take place in Larnaca, the town I live. If I find seminars, in which I am interested in, I attend them.”

(Teacher A2, 18 years experience)

“Every year I use to attend one or two series of seminars by the Pedagogical Institute.”

(Teacher A3, 17 years experience)

“I usually attend seminars by the Pedagogical Institute...”

(Teacher A4, 18 years experience)

“Seminars by the Pedagogical Institute is an available means of professional development in Cyprus.”

(Teacher A5, 18 years experience)

“Seminars by the Pedagogical Institute is the main means of professional development I use.”

(Teacher A6, 18 years experience)

“In Cyprus opportunities for professional development are usually offered by the Pedagogical Institute. I try to attend at least one series of seminars every year.”

(Teacher B1, 13 years experience)

“Seminars. I usually attend seminars.”

(Teacher B2, 13 years experience)

“As most teachers, I use to go to seminars by the Pedagogical Institute.”

(Teacher B3, 13 years experience)

“For the purpose of professional development I attend seminars.”

(Teacher B4, 12 years experience)

“I attend seminars by the Pedagogical Institute provided the topic interests me.”

(Teacher B5, 13 years experience)

“I usually try to find time to attend seminars by the Pedagogical Institute.”

(Teacher B6, 13 years experience)

“Depending on my workload I attend one or two series of seminars by the Pedagogical Institute.”

(Teacher C1, 1 year experience)

“I try to attend seminars by the Pedagogical Institute as often as I can.”

(Teacher C2, 2 years experience)

“In order to promote my professional development I attend seminars by the Pedagogical Institute.”

(Teacher C3, 1 year experience)

“I try to find out whether the Pedagogical Institute offers seminars that interest me. If there are interesting seminars, I attend them.”

(Teacher C4, 2 years experience)

“I try to attend as many seminars by the Pedagogical Institute as possible.”

(Teacher C5, 1 year experience)

“I usually attend seminars by the Pedagogical Institute.”

(Teacher C6, 1 year experience)

b. Books and journals

All the teachers with an experience of 17-18 years, three teachers with an experience of 12-13 years (B1, B2, B6) and one teacher with an experience of 1-2 years mentioned reading educational journals or books:

“Whenever I find time, I read educational books or journals.”

(Teacher A1, 18 years experience)

“I have subscribed to a journal about cooperation and hence I read it regularly. Sometimes I may read books too.”

(Teacher A2, 18 years experience)

“Books and journals are means I also use in order to develop professionally.”

(Teacher A3, 17 years experience)

“If I find a book or journal and I have time, I read them.”

(Teacher A4, 18 years experience)

“I use to read educational journals or books when I have free time.”

(Teacher A5, 18 years experience)

“I believe that educational journals and books can benefit your professional development”

(Teacher A6, 18 years experience)

“Professional development is a process of becoming more effective in order to achieve better outcomes... Another way is to attend seminars, read journals or attend M.A. courses so that to enrich your knowledge in topics you have developmental needs.”

(Teacher B1, 13 years experience)

“Whenever I come across educational journals or books at school I read them.”

(Teacher B2, 13 years experience)

“It is a process of improving professionally through various means such as seminars, M.A. courses, cooperation with colleagues, journals etc...”

(Teacher B6, 13 years experience)

“I try to read educational journals or books whenever I have time.”

(Teacher C4, 2 years experience)

c. Exchange o of views with colleagues

One teacher (B6) mentioned cooperation and exchange of views with colleagues:

“It is a process of improving professionally through various means such as seminars, M.A. courses, cooperation with colleagues, journals etc...”

(Teacher B6, 13 years experience)

d. Reflection on practice

One teacher (B1) mentioned reflection on one’s practice:

“Professional development is a process of becoming more effective in order to achieve better outcomes. One way to do this is by reflecting on your own practice in order to identify your developmental needs and think of how you can meet them.”

(Teacher B1, 13 years experience)

3. REFLECTIVE PRACTICE

All the teachers that took part in this research claimed that reflective practice is a means to identify the extent of their effectiveness as well as what steps to take in order to develop professionally:

“Coming home from school or even during teaching I identify positive and negative aspects of my teaching.”

(Teacher A1, 18 years experience)

“If you do not reflect on your practice, you cannot develop.”

(Teacher A2, 18 years experience)

“Reflective practice is necessary in order to know whether you are achieving your goals.”

(Teacher A3, 17 years experience)

“Reflective practice is a means to evaluate your teaching and identify developmental needs that must be met...”

(Teacher A4, 18 years experience)

“If we want to have a clear picture of ourselves as teachers, at the end of the day we must examine the extent to which we have achieved our teaching goals.”

(Teacher A5, 18 years experience)

“Reflective practice is a way of evaluating the effectiveness of my teaching. Reflective practice can help me develop and become more effective.”

(Teacher A6, 18 years experience)

“Through reflective practice you identify your developmental needs.”

(Teacher B1, 13 years experience)

“You identify the topics in which pupils had most difficulties and then you can think of ways to help them understand more effectively.”

(Teacher B2, 13 years experience)

“You identify where you succeeded and where you have not.”

(Teacher B3, 13 years experience)

“Reflective practice is necessary because through reflective practice you can develop...”

(Teacher B4, 13 years experience)

“Reflective practice gives you feedback on how to proceed with your teaching.”

(Teacher B5, 13 years experience)

“Reflective practice is an effort of evaluating one’s practice in order to see if one achieves the goals one sets every day.”

(Teacher B6, 13 years experience)

“The aim of reflective practice is professional development, to see what we need to change in our teaching so that pupils will learn more effectively.”

(Teacher C1, 1 year experience)

“Reflective practice is about whether my teaching leads to effective learning and whether I must do something for those who did not learn effectively.”

(Teacher C2, 2 years experience)

“Reflective practice is about evaluating ourselves; whether we have achieved our goals...”

(Teacher C3, 1 year experience)

“Reflective practice is a means to evaluate whether your teaching has led to effective learning.”

(Teacher C4, 2 years experience)

“Teachers must reflect on practice so as to know how they can improve and have better outcomes.”

(Teacher C5, 1 year experience)

“Reflective practice is necessary so that teachers will know whether their teaching leads to effective learning.”

(Teacher C6, 1 year experience)

4. REFLECTION ON PRACTICE WITH COLLEAGUES

a. Source of learning

All the teachers that took part in the research claimed that reflection on practice with colleagues can be a source of useful suggestions and learning. The following teachers made this claim without setting any preconditions.

“I do not know everything. I can learn a lot from colleagues.”

(Teacher A1, 18 years experience)

“Colleagues can give you useful advice... E.g. how to use various methods...”

(Teacher A5, 18 years experience)

“When you exchange ideas with other colleagues about your practice you can learn successful teaching approaches others use and which you might not have thought of ...”

(Teacher A6, 18 years experience)

“You learn a lot by discussing with colleagues.”

(Teacher B1, 13 years experience)

“... Other colleagues, whether younger or older can give you useful suggestions.”

(Teacher B6, 13 years experience)

“I need to reflect on practice with more expert teachers so as to see how someone with more experience thinks...”

(Teacher C1, 1 year experience)

“It is important to cooperate with other colleagues and exchange views.”

(Teacher C2, 2 years experience)

“It is important to reflect on practice with other colleagues because I am newly appointed and hence I can learn...”

(Teacher C3, 1 year experience)

“By reflecting on practice with other colleagues you learn new ideas.”

(Teacher C4, 2 years experience)

“Discussion with colleagues about practice can be useful.”

(Teacher C5, 1 year experience)

“By reflecting on practice with a more experienced teacher not only can I learn a lot about practice, but I can also see how a more experienced teacher reflects on practice.”

(Teacher C6, 1 year experience)

b. Source of learning provided colleagues are effective

Teacher B5 stressed that one colleague may help another provided that the former colleague is effective:

“If the other colleague is an effective teacher, he may be able to help you...”

(Teacher B5, 13 years experience)

c. Source of learning if trust is established

Three teachers with an experience of 17-18 years (A2, A3, A4) and three teachers with an experience of 12-13 years (B2, B3, B4) claimed that although reflection on practice with colleagues is important, it demands trust:

“Reflecting on practice with colleagues is difficult because it demands trust. When someone else points to our developmental needs we usually become defensive. Consequently we may feel resentful towards colleagues who will surface our developmental needs.”

(Teacher A2, 18 years experience)

“It is not easy to reflect on practice with other colleagues unless you trust them. In this case they may help you. I do not feel that I can trust my colleagues, so I work alone.”

(Teacher A3, 17 years experience)

“Before experiencing it I could not have imagined how important it is. When my best friend, who is a teacher and a person I completely trust, had the same grade as I, we used to reflect on our practice systematically. Two heads can have better ideas than one!”

(Teacher A4, 18 years experience)

“Reflection on practice with colleagues can be helpful, but it demands that these colleagues be people you trust and who know you well. I do not trust my colleagues with my developmental needs, so I reflect on practice alone.”

(Teacher B2, 13 years experience)

“Colleagues have helped me a lot. I usually talk to colleagues I feel comfortable with.”

(Teacher B3, 13 years experience)

“Colleagues may help you identify more developmental needs than one might identify on one’s own; but you must trust this person. I do not discuss my practice with colleagues because I have not found yet colleagues I can trust”

(Teacher B4, 12 years experience)

“Colleagues may tell you useful ideas, but it is not easy to discuss your developmental needs with them unless you trust them. You cannot know what one may say behind your back. So I avoid to discuss my practice with colleagues.”

(Teacher B5, 13 years experience)

5. NATURE OF REFLECTION

5.1. Conscious and systematic

All the teachers that took part in the research claimed to systematically reflect on their practice either after a lesson finishes, provided they have time, or at home when they review their school day.

a. Teachers 17-18 years

“I reflect on practice everyday in order to identify positive and negative elements in my teaching.”

(Teacher A1, 18 years experience)

“I reflect on the lessons I did everyday. I ask myself: Is there anything I did not do well? Was there anything that caused pupils difficulties?..”

(Teacher A2, 18 years experience)

“Everyday I reflect on the lessons I did in order to see whether the goals I have set were achieved. I also reflect on whether the goals I have set for the year were achieved at the end of the year.”

(Teacher A3, 17 years experience)

“I reflect on practice everyday in order to see what I did well and what was not effective for the pupils’ learning.”

(Teacher A4, 18 years experience)

“I reflect on practice everyday in order to see the extent of pupils’ progress and the topics they had difficulties with.”

(Teacher A5, 18 years experience)

“I reflect on practice everyday by evaluating pupils’ reactions during the lesson (e.g. their understanding and interest) and their written work.”

(Teacher A6, 18 years experience)

b. Teachers 12-13 years

“I reflect on practice everyday and at the end of the semester or the year in order to see whether my teaching has led to effective learning.”

(Teacher B1, 13 years experience)

“I reflect on practice everyday in order to see the extent of my pupils’ learning.”

(Teacher B2, 13 years experience)

“I reflect on practice everyday, after a lesson finishes or at home when I plan the next lesson, in order to see whether my goals have been achieved.”

(Teacher B3, 13 years experience)

“At the end of a lesson or the week I reflect on practice in order to see the extent I have achieved my goals.”

(Teacher B4, 12 years of experience)

“I reflect on practice everyday and at the end of a unit in order to see whether my goals have been achieved.”

(Teacher B5, 13 years experience)

“I reflect on practice everyday after lessons finish or at the end of the week in order to see what I did well and what I did not.”

(Teacher B6, 13 years experience)

c. Teachers 1-2 years

“I reflect on practice everyday by reviewing the pupils’ outcomes and I think whether I must change something in my teaching...”

(Teacher C1, 1 year experience)

“I reflect on practice everyday in order to see if my pupils have learned effectively...”

(Teacher C2, 2 years experience)

“I reflect on practice everyday and at the end of the week in order to see whether my goals have been achieved.”

(Teacher C3, 4 years experience)

“When the lesson finishes I think back on the lessons I did in order to see which pupils had difficulties and which pupils learned effectively.”

(Teacher C4, 2 years experience)

“I reflect on my practice every day in order to see if my goals have been achieved...”

(Teacher C5, 1 year experience)

“Everyday I reflect on practice when my lessons finish or at home in order to see what pupils learnt...”

(Teacher C5, 4 years experience)

“I use to reflect on practice in order to see the extent to which my goals have been achieved...”

(Teacher C6, 1year experience)

5.2. Unconscious and unplanned

Although not an aim of this research, some teachers’ answers revealed that reflection on practice may take place in unconscious and unplanned ways.

“Teachers reflect on their practice whether they believe in reflective practice or not. Coming home from school or even during classroom time they identify positive and negative elements in their teaching...”

(Teacher A1, 18 years experience)

“A bad feeling about the way you taught can make you realize that you did not work according to your principles...”

(Teacher A2, 18 years experience)

“Unconsciously we always reflect on our practice...”

(Teacher B5, 13 years experience)

“I reflect on practice everyday without saying to myself that now it is time to evaluate myself...”

(Teacher C5, 1 year experience)

“Sometimes how you feel about your teaching is a kind of reflection on practice. E.g. whether you feel satisfied or not...”

(Teacher C5, 1 year experience)

“I do not take notes about my practice. Notes are in my mind.”

(Teacher C5, 1 year experience)

5.3. *In action*

Although not an aim of this research, the Cypriot teachers’ answers revealed that reflection takes place also in action:

“Sometimes pupils cannot answer certain questions. Immediately I change the way I ask...”

(Teacher A1, 18 years experience)

“Sometimes I may start the lesson by implementing cooperative learning. If I observe that pupils do not learn effectively, I tell pupils to stop and I use a different method...”

(Teacher A2, 18 years experience)

“Even during teaching I think: Is my teaching leading to effective outcomes? Many times I even change approaches during teaching. For example I say: Children stop this! Let us start again...”

(Teacher A4, 18 years experience)

“When I realize that pupils do not understand effectively I tell children to stop whatever I told them to do and I use a different approach.”

(Teacher A6, 18 years experience)

“I reflect on practice everyday by evaluating pupils’ reactions during the lesson (e.g. their understanding and interest) and their written work.”

(Teacher A6, 18 years experience)

6. ASPECTS/EVENTS THAT PROMPT REFLECTION

Table 1 shows what the aspects or events of the Cypriot primary school teachers' practice which prompt them to reflect on practice.

TABLE 1
Aspects/ events that prompt reflection

Aspects/events	Teachers / Years of teaching experience		
	1-2 years	12-13 years	17-18 years
Tests	All	All	All
Pupils' answers to questions that review what has been taught at the end of lessons	C1, C3,C5	B1, B2, B5	A2, A4, A6
Notes about one's teaching	C6	B3, B5	A2, A4
Pupils' statements			A1
Pupils' understanding and interest during teaching	C5, C6	B1, B3, B4, B5, B6	

6.1 Tests

Table 1 shows that all the teachers that took part in the research use tests in order to reflect on practice:

“A test can show you the areas in which the pupils have succeeded to learn as well as where they have failed to learn. In the latter case you must examine your teaching.”

(Teacher A1, 18 years experience)

“A test allows you to know what each pupil has learned and to what degree. Then you will know the aspects of your teaching where you must make changes so as to help pupils improve.”

(Teacher A2, 18 years experience)

“Tests let you know where your teaching failed to deliver the expected outcomes. Then you will reflect on whether you must make changes in your teaching.”

(Teacher A3, 17 years experience)

“With a test you know what pupils learned and what they have not learned. Then you can reflect on your teaching in order to see what to do in the cases where they have not learned.”

(Teacher A4, 18 years experience)

“The outcomes of a test show what the majority of pupils learned and how well. Then you can reflect on your teaching in order to see whether you can improve these outcomes.”

(Teacher A6, 18 years experience)

“A test gives you an overall picture of your outcomes. Then you can know whether you need to examine your teaching.”

(Teacher A6, 18 years experience)

“A test is a means to know which teaching goals have been fulfilled and which goals have not.”

(Teacher B1, 13 years experience)

“A test shows what pupils learned. When outcomes are unsatisfactory you will know which goals have been fulfilled and which have not. Then you will examine your teaching in order to see how to fulfil these goals.”

(Teacher B2, 13 years experience)

“A test shows what pupils know. If outcomes are poor you will examine your teaching in order to maximize learning in these areas.”

(Teacher B3, 13 years experience)

“Tests show you where your pupils face difficulties. As a result you can reflect on how to help pupils learn more effectively.”

(Teacher B4, 12 years experience)

“Tests help me see what I taught well. When outcomes are poor I reflect on my teaching.”

(Teacher B5, 13 years experience)

“A test shows where your teaching succeeded and where it didn’t. In the latter case you must examine your teaching.”

(Teacher B6, 13 years experience)

“When the outcomes of a test are poor I reflect on my teaching.’

(Teacher C1, 1 year experience)

“Tests show which goals have been fulfilled. In the case where certain goals have not been fulfilled you will start reflecting on your teaching.”

(Teacher C2, 2 years experience)

“The outcomes of a test always prompt me to reflect on practice”

(Teacher C3, 1 year experience)

“I use to reflect on my teaching after I have marked tests.”

(Teacher C4, 2 years experience)

“The outcomes of a test can tell you a lot about your teaching in a particular class.”

(Teacher C5, 1 year experience)

“A test shows what pupils learn well and what they do not. Then you must examine your teaching.”

(Teacher C6, 1 year experience)

6.2 Pupils' answers to questions

Three of the six teachers of each group are prompted to reflect on practice by pupils' answers to questions that review what has been taught at the end of a lesson:

“When pupils cannot answer questions about what I have taught, I reflect on practice so that in the following lessons my pupils will learn better.”

(Teacher A2, 18 years experience)

“At the end of a lesson I ask some questions which can show me if the pupils have learnt what I expect. In this way I have an indication of the level of their learning.”

(Teacher A4, 18 years experience)

“I use to ask questions about the main points of a lesson. When the majority of my pupils face difficulties I reflect on what to do about it.”

(Teacher A6, 18 years experience)

“When my pupils cannot answer my questions properly I reflect on practice.”

(Teacher B2, 13 years experience)

“Asking pupils questions about what you taught shows what they have learnt and hence you know whether you should make changes in your practice.”

(Teacher B1, 13 years experience)

“When I finish a lesson I ask pupils questions like: What have you learnt today about ...?”

(Teacher B5, 13 years experience)

“When you ask pupils questions about the lesson, you know what they have learnt and if you must examine your practice.”

(Teacher C2, 2 years experience)

“Before a lesson finishes I used to ask questions in order to see what pupils have learnt. E.g. Who can tell me the factors which we have identified as contributing to....? Can you remind me what we have discussed about ...?”

(Teacher C3, 1 year experience)

“I used to ask questions in order to see what my pupils have understood. If they cannot answer I examine my teaching.”

(Teacher C5, 1 year experience)

6.3 Pupils’ understanding and interest

Five teachers with an experience of 12-13 years and two teachers with an experience of 1-2 years use pupils’ understanding and interest:

“If pupils do not seem to understand what I am teaching... I am given a sign that I must examine my practice.”

(Teacher B1, 13 years experience)

“While I am teaching I try to observe whether the pupils understand what I teach. If they seem to have difficulties then I will have to examine my teaching.”

(Teacher B3, 13 years experience)

“When I notice that my pupils do not seem to understand what I teach, I examine my practice.”

(Teacher B4, 12 years experience)

“Pupils’ interest and understanding during a lesson can show me whether my teaching helps pupils learn. If pupils are uninterested or seem puzzled, then I reconsider my teaching.”

(Teacher B5, 13 years experience)

“If my pupils are not interested or do not seem to understand, I examine my practice.”

(Teacher B6, 18 years experience)

“Pupils’ interest and understanding are signs about whether I should reflect on my teaching.”

(Teacher C5, 1 year experience)

“When pupils find it difficult to understand I examine my practice.”

(Teacher C6, 1 year experience)

6.4 Notes about one's teaching

Two teachers with an experience of 17-18 years, two teachers with an experience of 12-13 years and one teacher with an experience of 1-2 years take notes about their teaching.

“Sometimes when outcomes are unsatisfactory I write down notes about how I have taught and what teaching goals have not been fulfilled so that I can reflect on those later.”

(Teacher A4, 18 years experience)

“When pupils’ learning is not satisfactory, I take notes about my lesson and I reflect on it later.”

(Teacher A2, 18 years experience)

“When my teaching does not seem to fulfil the goals I have set, I take notes about it so that I can reflect on what must change.”

(Teacher B3, 13 years experience)

“When I am not satisfied with my pupils’ learning I may take notes about my teaching. I review these notes when I reflect on my teaching.”

(Teacher B5, 13 years experience)

“Sometimes I take notes about lessons that failed to boost pupils’ learning. Then I use these notes to reflect on practice.”

(Teacher C3, 1 year experience)

6.5 Pupils' statements

One teacher with an experience of 17-18 years uses pupils' opinion about her teaching.

“Sometimes I ask pupils to tell me what they think about the lesson. For example I ask: Are you enjoying the lesson? Did you face any difficulties today? Would you like it if we did something differently? ...”

(Teacher A1, 18 years experience)

7. EVALUATIVE COMPETENCE

All the teachers that took part in the research agree that reflective practice must lead to the setting of goals for professional development.

Half of the teachers claimed that this is the aim of reflective practice:

“The essence of reflective practice is to set goals for professional development.”

(Teacher A1, 18 years experience)

“If you do not reflect on your practice you cannot develop.”

(Teacher A2, 18 years experience)

“If one’s reflective practice does not lead to goals for professional development why should we engage in it anyway?”

(Teacher A4, 18 years experience)

“The primary aim of reflective practice is professional development.”

(Teacher A6, 18 years experience)

“After reflecting on practice you must set goals for development and then go to seminars, read books, listen to other colleagues in order to meet them...”

(Teacher B2, 13 years experience)

“You must set goals if you want to develop.”

(Teacher B3, 13 years experience)

“The aim of reflective practice is to set goals for professional development.”

(Teacher C3, 1 year experience)

“Reflective practice can help you become aware of what goals of development you need to set.”

(Teacher C4, 2 years experience)

“If you want to improve you must set goals for professional development.”

(Teacher C5, 1 year experience)

The other half of the teachers added that the professional growth goals, which are set after reflection, must meet the developmental needs which have been identified through reflection:

“I learn from my mistakes which are revealed through my reflections on practice.”

(Teacher A3, 17 years experience)

“If you examine your practice critically, you will identify your developmental needs and then you can work on meeting them.”

(Teacher A5, 18 years experience)

“Reflective practice is the means to identify your developmental needs. Then you must take steps to meet them.”

(Teacher B1, 13 years experience)

“Through reflective practice teachers identify the level of professional ability they have reached and this knowledge can help them set goals for further development.”

(Teacher B4, 12 years experience)

“If you aim to develop professionally you must set goals in order to meet the developmental needs you identify through reflection.”

(Teacher B5, 13 years experience)

“If you do not set goals how will you meet your developmental needs?”

(Teacher B6, 13 years experience)

“After reflecting on practice teachers must set goals for development in the areas they have developmental needs.”

(Teacher C1, 1 year experience)

“It is important that you set goals for professional development after reflecting on your practice because when you evaluate yourself you become aware of your mistakes and then you can work on improving yourself as a teacher.”

(Teacher C2, 2 years experience)

“Reflection on practice shows you in which areas you need to develop professionally. Hence it is a very good means to use in order to set goals for professional development.”

(Teacher C6, 1 year experience)

7.1. Goals

A. Teachers 17-18 years

a. Teaching approaches

“To replace teaching approaches that did not lead to satisfactory outcomes at particular topics with more effective approaches.”

(Teacher A1, 18 years experience)

“To learn to develop pupils’ expression more effectively.”

(Teacher A2, 18 years experience)

b. Teaching Methods

“To become more effective in implementing discovery learning.”

(Teacher A5, 18 years experience)

c. General Methodology

“To speak less in class and give pupils opportunities to speak more.”

(Teacher A4, 18 years experience)

“To give pupils more opportunities to express themselves.”

(Teacher A6, 18 years experience)

d. To use computers in teaching

“I want to learn how to use computers in my teaching.”

(Teacher A3, 17 years experience)

B. Teachers 12-13 years

a. Teaching

“I want to become more effective in teaching art.”

(Teacher B6, 13 years experience)

b. Teaching Methods

“I want to become more effective in implementing discovery learning and communicational approaches.”

(Teacher B3, 12 years experience)

c. General Teaching Methodology

“I want to use time more effectively and give pupils more opportunities to express themselves.”

(Teacher B4, 12 years experience)

“I aim to give pupils more opportunities to take part in the lesson.”

(Teacher B5, 13 years experience)

“I want to manage time more effectively.”

(Teacher B6, 13 years experience)

d. Innovations

“I want to learn more about innovations which were introduced in our educational system.”

(Teacher B5, 13 years experience)

e. Children’s psychology

“I want to learn more about children’s psychology.”

(Teacher B1, 13 years experience)

C. Teachers 1-2 years

a. Teaching Methods

“I want to become more effective in implementing discovery learning.”

(Teacher C6, 1 year experience)

b. General Teaching Methodology

“I want to learn to teach at pupils’ level.”

(Teacher C1, 1 year experience)

“I want to allow as many pupils as possible to take part in the lesson.”

(Teacher C2, 2 years experience)

“I want to use as simple examples as possible so that all pupils will understand what is taught.”

(Teacher C2, 2 years experience)

“I want to manage my time more effectively.”

(Teacher C3, 1 year experience)

“I want to become more effective in time management...”

(Teacher C4, 2 years experience)

c. The use of computers in teaching

“I want to learn to use computers in teaching.”

(Teacher C5, 1 year experience)

d. Relevant issues to teaching

“I want to learn more about pupils’ psychology.”

(Teacher C5, 1 year experience)

“I want to learn more about parental involvement in school.”

(Teacher C5, 1 year experience)

7.2. Absence of goals

Teacher B2 could not articulate any goals because, as she claimed, goals for professional development are in our unconscious:

“Goals? What goals?... We may have goals, but they may be in our unconscious. We may not be clear about them or aware of them. We may sit and write down goals and suddenly realize that we have been working on meeting the most of them in the past years, but we were not consciously aware of it...”

(Teacher B2, 13 years experience)

Teacher B2 also mentioned that teachers’ goals decrease as teachers become more experienced:

“By becoming experienced you learn more and as a result you do not have as many goals as before.”

(Teacher B2, 13 years experience)

8. REFLECTION ON OUTCOMES

All the teachers, except teacher A3, claimed that reflection on whether the outcomes of their practice are what they expected is of primary importance because it can help them evaluate their effectiveness and understand how to boost it further.

A. Teachers 17-18 years

“Unsatisfactory outcomes can make you question your practice in order to find the reasons for these outcomes. I ask myself: Is it my approach...?”

(Teacher A1, 18 years experience)

“Reflecting on whether outcomes are satisfactory can show me which are the topics that pupils have not learnt well. Hence I will know what to teach again. I will do therapeutic work (e.g. more practice) or I may change my approach or method.”

(Teacher A2, 18 years experience)

“Awareness of outcomes is the best way to examine our effectiveness.”

(Teacher A4, 18 years experience)

“It is important to know your outcomes if you want to measure how effectively you teach.”

(Teacher A5, 18 years experience)

“Outcomes provide a feedback to me about how to proceed in order to reduce unsatisfactory outcomes.”

(Teacher A6, 18 years experience)

B. Teachers 12-13 years

“If outcomes are unsatisfactory you must discover what is wrong... you must know the factors that caused unsatisfactory outcomes.”

(Teacher B1, 13 years experience)

“It is very important to reflect on outcomes. This is what reflective practice is about. If outcomes are not satisfactory you must stop and do something about it.”

(Teacher B2, 13 years experience)

“By reflecting on your outcomes you become aware of which goals have been fulfilled and of which teaching approaches or activities boost pupils’ effective learning.”

(Teacher B3, 13 years experience)

“If outcomes are unsatisfactory you must think what to do in order to have better outcomes.”

(Teacher B4, 12 years experience)

“It is when you reflect on outcomes, that you can develop as a professional.”

(Teacher B5, 13 years experience)

“It is very important to reflect on outcomes in order to help pupils improve in the topics they have not learnt effectively.”

(Teacher B6, 13 years experience)

C. Teachers 1-2 years

“Reflection on outcomes shows what goals you have or have not achieved. Hence you know on which goals you must focus...”

(Teacher C1, 1 year experience)

“By reflecting on outcomes you know the topics that pupils need to learn more effectively...”

(Teacher C2, 2 years experience)

“Teachers must reflect on outcomes. In the case of unsatisfactory outcomes they must think what they must change in their teaching...”

(Teacher C3, 1 year experience)

“If you do not know whether you have achieved your goals how will you proceed?”

(Teacher C4, 2 years experience)

“It is very important to reflect on outcomes. I do not think that there is a better way to examine your effectiveness than this.”

(Teacher C5, 1 year experience)

“Teachers must know the extent that they achieve their goals so as to know how to proceed in the future lessons. Through reflection they will understand what are the topics that pupils have not understood and hence they can think of other ways to teach these...”

(Teacher C6, 1 year experience)

For teacher A3 reflection on whether outcomes were the expected is a means to examine whether outcomes match pupils' maturity and ability level:

“Teachers must know what their pupils have learned and they must also examine whether these outcomes match pupils' maturity and ability level. They must not blame their teaching for unsatisfactory outcomes unless they examine this first.”

(Teacher A3, 17 years experience)

9. WAYS TO ACHIEVE BETTER OUTCOMES

9.1. Teachers 17-18 years

a. More practice

a.1. More practice for all topics

Teachers A3 and A5 claimed to let pupils practise in order to learn more effectively:

“If you give a lot of hand-outs with exercises, pupils will keep practising and in the end they will learn. Practice makes perfect.”

(Teacher A3, 17 years experience)

“I try to reduce the number of pupils, who did not learn effectively. So I give them more exercises of a simple form so as to practise...”

(Teacher A5, 18 years experience)

a.2. More practice for calculations and grammar

Three teachers (A1, A4, A6) claimed to use further practice as a means to boost pupils abilities to do calculations and exercises about grammar:

“If pupils have forgotten how to do divisions or subtractions or other calculations I do therapeutic work. I spend 5-10 minutes everyday by asking pupils to find the answers to divisions or subtractions...”

(Teacher A1, 18 years experience)

“When there are poor outcomes in grammar or calculations I give pupils additional exercises concerning these topics so that they can practise further. I give them the same kind of exercises because knowing how to be grammatically correct and how to do calculations are abilities. The development of these abilities demands practice. Pupils who learn grammar and calculations are like athletes who train. The more training the better the outcome.”

(Teacher A4, 18 years experience)

“When I observe that pupils have not learnt a grammatical phenomenon I give pupils exercises concerning this phenomenon in the lessons that follow. I believe that when you keep teaching grammatical phenomena, that pupils have not learnt well, and when you keep giving them opportunities to practise they will learn in the end...”

(Teacher A6, 18 years experience)

a.3. More practice with using objects in mathematics

Two teachers (A2, A3) claimed to return to the stage of using concrete objects when pupils have difficulties in mathematics:

“Sometimes, when I teach mathematics, I go back to using objects if I realize that pupils should have worked more time with objects, before moving to the abstract level.”

(Teacher A2, 18 years experience)

“If I move to the abstract level too fast when teaching a topic in mathematics (e.g. additions), and pupils have difficulties, I let pupils use objects, as they did when I started the teaching of this topic.”

(Teacher A3, 17 years experience)

b. Modification of the same approach

Teachers A2 and A6 claimed to follow a more simplified approach:

“I give pupils, whose outcomes are unsatisfactory, handouts with instructions that guide them to solve problems by following simple stages...”

(Teacher A2, 18 years experience)

“I explain how problems are solved by following a more simplified approach. E.g. I guide pupils to follow more simple stages of thinking in order to solve a problem...”

(Teacher A6, 18 years experience)

C. A Different approach

C.1. From explaining theoretically in mathematics to using objects or graphic representations

Three teachers A1, A2 and A4 provided such examples:

“I explained to pupils how to find the area, but they had difficulties. So I tried to think of more practical ways to help them understand. So in the next lesson, I asked them to cover surfaces using various means.”

(Teacher A1, 18 years experience)

“I tried to teach turning fractions into decimals by explaining the theory. Outcomes were poor. The following lesson I gave them objects and graph paper to represent the transformation.”

(Teacher A2, 18 years experience)

“I had taught multiplication of fractions by explaining the theory. When I came home I reflected on how to differentiate my approach in order to achieve better outcomes. The other day I used objects.”

(Teacher A4, 18 years experience)

C.2. From explaining theoretically to implementing discovery learning

Teacher A2 provided an example of changing her approach from explaining to pupils to letting pupils discover:

“I explained how and why we make paragraphs. Outcomes were poor. So I told pupils to read a text and find out whether it was arranged in groups of sentences. Afterwards I asked them to find out why. In the discussion that followed they concluded that each paragraph was about a different topic. After this, more pupils were using paragraphs in their writing...”

(Teacher A2, 18 years experience)

C.3. From giving pupils freedom to act to giving more guidance

Such an example was provided by teacher A4:

“I had to teach pupils to write an essay with the title “Winter Scenes”. I read to them essays with similar topics and I left them free to write. Outcomes were poor. When I had to teach the same topic with another class, I gave pupils the topic sentence of each paragraph and asked them to write the paragraphs. Outcomes were better.”

(Teacher A4, 18 years experience)

“Sometimes I allow pupils time to discover ways of solving problems. If it turns out to be too difficult for them I give them instructions about which steps to follow...”

(Teacher A2, 18 years experience)

C.4. From using learning by heart to finding relations between numbers

The above example was provided by A4:

“I used to teach multiplications by telling pupils to learn them by heart. This year I told them that each multiplication or division is a group of three numbers. So I gave them the two numbers (e.g. 3, 12) and asked them to find out the third one (e.g. 4). In this way they had to think which is the third one (e.g. 4). They had to think of the number which, if multiplied by three would result in twelve. With this teaching procedure, they worked on finding the relations between the numbers. As a result they managed to have a better understanding of what a multiplication is.”

(Teacher A4, 18 years experience)

C.5. Self correction

Teacher A1 provided many examples of allowing pupils to correct themselves, instead of telling them herself:

“Many times, instead of telling myself how pupils can improve their composition, I ask them to read the criteria for writing good compositions, at the last page of their exercise book, and make the necessary corrections themselves. Then I examine what they have done...”

(Teacher A1, 18 years experience)

“Sometimes when I teach home economics I ask pupils to find out what went wrong with the task they were engaged with instead of telling them myself...”

(Teacher A1, 18 years experience)

“I tell pupils to write at the back of their notebook the procedure of multiplying fractions. Whenever they forget or make mistakes I tell them to look at this page and find out what they did wrong.”

(Teacher A1, 18 years experience)

C.6. Allowing pupils to discover in a different way

Teacher A4 provided such an example:

“I asked pupils to read a text and find out the advantages of peace and the disadvantages of war, but they had difficulties. So I used brainstorming instead. I asked pupils to tell me whatever word crossed their mind concerning these topics and I wrote them on the board. Then I asked them to make sentences and in this way they began discussing...”

(Teacher A6, 18 years experience)

d. Teaching previous knowledge

Teachers A2 and A6 claimed that when pupils do not know the knowledge they should have known from the previous grade, then they teach this knowledge:

“My pupils, at grade 5, did not know how to read a text in order to be able to tell the most important points afterwards or how to do multiplications. So I started teaching these first.”

(Teacher A2, 18 years experience)

“Sometimes pupils may forget or not know topics they have been taught before. In these cases I spend a few minutes everyday doing relevant exercises... E.g. if they do not know how to identify verbs and adjectives I give them everyday such exercises for fifteen minutes...”

(Teacher A6, 18 years experience)

e. Individual help

All the teachers claimed to provide individual help to pupils with difficulties.

f. Doing nothing

Teacher A5 claimed that the reason, why the majority of pupils fails, is because the teaching content is not suitable for the pupil's maturity and hence she moves on:

“When the majority of the class has not managed to learn effectively I believe that such a failure must not be attributed totally to my teaching. Maybe partly, it is my responsibility, but may be the teaching content is beyond the pupils' level of maturity. Hence it should not be taught at all to them. So I teach other topics...”

(Teacher A5, 18 years experience)

9.2. Teachers 12-13 years

a.1. More practice for all topics

Four teachers (B2, B4, B5, B6) claimed to allow pupils more time to practise with topics they have difficulties with:

“Whenever pupils have difficulties with certain topics I have taught I give them everyday relevant exercises so as to practise and learn.”

(Teacher B2, 13 years experience)

“I let pupils practise as much as possible because pupils learn when they practise a lot.”

(Teacher B4, 12 years experience)

“I allow pupils more time to practise with the topics, with which they face difficulties. Sometimes pupils need more time to practise in order to achieve a comprehensive understanding.”

(Teacher B5, 13 years experience)

“I give more homework concerning the topics pupils have difficulties with, so as they will practise.”

(Teacher B6, 13 years experience)

a.2. More practice with using objects when teaching mathematics

Two teachers (B2, B4) claimed that when pupils have difficulties with certain topics in mathematics, they return to the first stage of teaching these topics, which is the stage where pupils use objects:

“If the majority of pupils has unsatisfactory outcomes in a test, then I do not teach something else. I allow pupils more time to engage in activities that I used to do at the beginning of teaching these topics. E.g. In mathematics I allow pupils to use objects if they cannot solve problems at the abstract level.”

(Teacher B2, 13 years experience)

“I allow pupils to use objects again when they cannot do additions at the abstract level.”

(Teacher B4, 12 years experience)

b. Explaining again

One teacher (B6) claimed to explain again how exercises, with which pupils have difficulties, are solved:

“I solve exercises pupils have difficulties with on the board. I explain what they did wrong and how the exercises should be solved, until pupils understand better.”

(Teacher B6, 13 years experience)

c. Using easier exercises

“Sometimes what we teach does not match the pupils’ level...Consequently we must give pupils easier exercises.”

(Teacher B5, 13 years experience)

C. A Different approach

C.1. From explaining theoretically to using objects

Teachers B1 and B3 mentioned such an example:

“I explained the theory of how to add or subtract decimals while demonstrating on the board. Pupils had difficulties. I realized that pupils had not understood well because I had started teaching at the abstract level. Consequently, I used the Diene’s material (single cubes, sets of tens, sets of hundreds) to represent decimals and add or subtract them. In this way they had a better understanding of why we have to add or subtract the way I had explained at the beginning.”

(Teacher B1, 13 years experience)

“Although many times I am under the impression that I have explained, as simply as possible how mathematical problems are solved, pupils still have difficulties. When I reflect on my approach I realize there were abstract meanings in my explaining and that I should have given pupils objects to work with or do drawings in order to understand better.”

(Teacher B3, 13 years experience)

C.2. From representing calculations on a numbered line to experiencing in a real situation.

Teacher B3 (13 years) gave an example in which she changed her approach from using a numbered line to teach calculations to letting pupils experience in a real situation how these are done:

“I tried to teach pupils additions or subtractions with numbers from 0 to 10 by using a line with these numbers. Pupils had difficulties. In the next lesson I drew a line on the floor with numbers from 0 to 10 and asked pupils to make steps backwards and forwards in order to add or subtract. By making steps on a real line more pupils understood.”

(Teacher B3, 13 years experience)

C.3. From telling pupils ideas to write an essay to helping them bring to the surface their own ideas

Teacher B1 talked about the above:

“I used to tell pupils ideas in order to write an essay. When I reflected on my teaching I realized that I was the one talking all the time. So I decided to use brainstorming. Now I ask pupils to say words or sentences they can think of about a topic and I write them on the board. Then they discuss about these in groups and they present them to the whole class. And they write better now.”

(Teacher B1, 13 years experience)

C.4. From strict guidance to freedom to express opinions

Teacher B1 gave such an example:

“I used to ask pupils questions about a text and they gave me short answers. This approach was not promoting neither their understanding of the text nor their expression. So I decided to ask pupils to search for various kinds of information and discuss in groups. In this way they learned to discover the information they were asked and also to express themselves critically.”

(Teacher B1, 13 years of experience)

d. Individual help

All the teachers claimed to provide individual help to weak pupils.

e. Simplification of exercises

Teacher B5 claimed to use easier exercises when exercises are too difficult for the pupils' level:

“I may give pupils exercises which are easier and move on progressively from easier exercises to more difficult exercises. Sometimes what we teach may not be suitable for the pupils' level and hence this is the reason for the pupils' difficulties.”

(Teacher B5, 13 years experience)

9.3. Teachers 1-2 years

a.1. More practice for all topics

Four teachers (C1, C2, C3, C4) claimed to allow pupils more time to practise in the topics they face difficulties:

“Many times, instead of teaching other topics, I choose to stop and allow pupils to practise with exercises concerning topics they have either forgotten or did not understand. Exercises are a bit mechanistic. They are the same as before because many times pupils need to engage in doing something many times until they are able to do it easily.”

(Teacher C1, 1 year experience)

“When certain goals have not been achieved I give pupils more exercises so as to practise and learn.”

(Teacher C2, 2 years experience)

“When outcomes are unsatisfactory I think that pupils may have not practised enough.”

(Teacher C3, 1 year experience)

“I give pupils exercises to practise in the topics that the face difficulties, in order to improve”

(Teacher C4, 1 year experience)

a.2. More practice with using objects in mathematics

Teachers C5 and C6 claimed that when their pupils face difficulties with certain topics in mathematics they allow them to use objects:

“I gave a handout with exercises. Pupils had difficulties. So I allowed them to use objects again.”

(Teacher C6, 1 year experience)

“When weak pupils face difficulties in mathematics I allow them to use objects.”

(Teacher C5, 1 year experience)

b. Repetition of the same teaching procedure:

Four teachers (C2, C3, C4, C5) claimed to repeat the application of a teaching procedure in order to achieve better outcomes:

“When I was teaching pupils how to tell the time, pupils had not understood due to lack of time. So I repeated the lesson... E.g. I brought a model clock to show and explain the time again, I provided examples concerning the time from real life situations...”

(Teacher C2, 2 years experience)

“I explain again how exercises are solved on the board, so that pupils will listen and learn. It is a kind of practice with the whole class.”

(Teacher C3, 1 year experience)

“Sometimes I repeat a teaching procedure... I explain again until pupils understand... Some other times I solve exercises with which pupils have difficulties with on the board and I explain again how these exercises should be solved.”

(Teacher C4, 2 years experience)

“I explain the topics, with which pupils have difficulties with, in the way I did before. I do this in order to make sure that the reason pupils did not understand was not the way I explained these topics, but pupils’ lack of attention.”

(Teacher C5, 1 year experience)

b.1. Modifications when repeating the same approach:

Teachers C1, C3, C5, C6 claimed to engage in the following modifications when repeating the same approach:

b.1.1. Using a more simplified form of expression

The above was supported by C5:

“If explaining in the same way does not work, I use a different way. I explain by using more simple words.”

(Teacher C5, 1 year experience)

b.1.2. Using better data organization on the board

This was supported by C1:

“... I organize data on the board in a better way, so that when I explain, pupils will focus on the data which I will be discussing and therefore they will understand better...”

(Teacher C1, 1 year experience)

b.1.3. Simplification of numbers, sentences, cited examples

Teachers C1, C3, C5 and C6 claimed to simplify the numbers they use, the examples they mention and the sentences they give to pupils to fill in, in order to maximize their understanding:

“If pupils have difficulties in solving problems, I give them problems with easier numbers... When I discuss a topic I use examples closer to pupils’ lives.”

(Teacher C1, 1 year experience)

“I make changes in my approach... I use more examples from every day life... I use easier numbers. I tell pupils or I write on the board easier sentences to fill in...”

(Teacher C3, 1 year experience)

“... I use easier numbers to help pupils solve problems.”

(Teacher C5, 1 year experience)

“Sometimes sentences are difficult and pupils cannot understand their meaning. As a result they cannot fill in the appropriate form of the verbs they are given. So I give them easier sentences... In mathematics I also use easier numbers to help pupils understand better.”

(Teacher C6, 1 year experience)

c. Giving up a method

Teachers C1, C4, C5 and C6 discussed cases where they gave up implementing a method due to pupils’ difficulties:

“Sometimes I change methods. For example sometimes I tell pupils to cooperate in order to solve a problem. Although I help them in order to proceed, outcomes are poor. So I stop teaching in this way and I use a more teacher centered approach: I tell pupils what they must learn.”

(Teacher C1, 1 year experience)

“I have identified cases where pupils could not work cooperatively because the task was difficult. I had to provide a lot of help. In the end they stopped cooperating and just listened to me. So I gave up cooperative learning the next time I had to teach these topics. Instead I solved these tasks on the board while I was asking pupils questions.”

(Teacher C4, 2 years experience)

“When I was teaching history I asked pupils to discover information from a text. Pupils had difficulties because the text was difficult. In addition weak pupils could not cooperate... So I decided to abandon this method. I read the text myself, I asked simple questions and I explained...”

(Teacher C5, 1 year experience)

“If I try to implement a method and pupils do not respond, I stop using it to teach this particular topic...”

(Teacher C6, 1 year experience)

d. Implementing a method as less often as possible

Teacher C5 claimed to implement discovery learning and cooperative methods as less often as possible in order to avoid the problems that arise with his class when these methods are implemented:

“I asked pupils to discover information from various sources and cooperate as part of a project that included writing articles and preparing interview schedules. Weak pupils found it difficult to cooperate so I decided to use the above methods less often with the class I currently teach...”

(Teacher C5, 1 year experience)

e. Individual help

All the teachers claimed to provide individual help to pupils with difficulties.

f. Doing nothing

Teacher C5 claimed that when pupils' outcomes are unsatisfactory in topics, which will be taught again in future lessons, he does nothing at that time:

“When pupils' outcomes are unsatisfactory in certain topics of a test, I do nothing at that time, if I know that these topics will be taught again in the lessons which will follow.”

(Teacher C5, 1 year experience)

10. TEACHERS' THEORIES IN USE

In this section I present theories in use which were revealed through the teachers' interviews.

10.1 Teachers 17-18 years

a. Practice must be critically examined in order to discover developmental needs.

This theory in use was reflected in the answers of teachers A1, A2 and A6:

“Unsatisfactory outcomes can make you question your practice. You will ask yourself: Is it my approach? Is it the way I organized the lesson? Is it the test I gave? Do my pupils have any weaknesses that I should have worked on meeting before teaching this topic?...”

(Teacher A1, 18 years experience)

“When I go home I reflect on my practice and I say: What have I done that was not effective?”

(Teacher A2, 18 years experience)

“...When I evaluate myself I usually discover developmental needs which I must meet. It is very rare to tell myself ‘Well-done’...”

(Teacher A4, 18 years experience)

“I reflect on my teaching in order to find out what I did wrong. I ask myself: Was my teaching approach inappropriate? Was the way I evaluated pupils inappropriate? Do pupils lack abilities or knowledge that I should have taught before teaching this topic?”

(Teacher A6, 18 years experience)

“I look critically at my teaching and I say: Is there anything wrong considering the way I have taught or the way I have evaluated pupils? ...”

(Teacher A6, 18 years experience)

b. Changes in one's practice may be necessary in case of unsatisfactory outcomes.

This theory in use was reflected in the answers of teachers A1, A2, A4, A6:

“...What must I do to help pupils learn...?”

(Teacher A1, 18 years experience)

“...How can I teach differently topics that I have taught and outcomes were unsatisfactory? Is there another way? ...”

(Teacher A2, 18 years experience)

“When outcomes are unsatisfactory I ask myself: Should I use a different method or approach? Should I put emphasis on another topic...”

(Teacher A4, 18 years experience)

c. Pupils must not be blamed for unsatisfactory outcomes, but practice.

This theory in use was reflected in the answers of teachers A2 and A6:

“When pupils do not know a topic I have taught, I do not say that it is the pupils' fault. I say that I must use a different teaching approach”.

(Teacher A2, 18 years experience)

“Most of the time it is our teaching approach that it is to blame. It is not the pupils that we must blame...”

(Teacher A6, 18 years experience)

d. Unsuccessful approaches must be given up.

This theory in use was reflected in the answers of teachers A3:

“I examine my teaching in order to find out which approaches helped me achieve satisfactory outcomes and which did not. I keep implementing the approaches that led to satisfactory outcomes and I give up implementing the approaches that led to unsatisfactory outcomes.”

(Teacher A3, 17 years experience)

e. Unsuccessful outcomes are due to lack of practice.

This theory in use was reflected in the answers of A3 and A5:

“If pupils keep practising they will learn. Practice makes perfect.”

(Teacher A3, 17 years experience)

“In order to reduce the number of pupils who have not learned effectively I let pupils practise further.”

(Teacher A5, 18 years experience)

f. Unsatisfactory outcomes may be due to pupils' level.

This theory in use was reflected in the answers of A3 and A5:

“Teachers must examine whether the outcomes of their teaching match pupils' maturity and ability level. They must not blame their teaching for unsatisfactory outcomes unless they examine this first.”

(Teacher A3, 17 years experience)

“When the majority of the class has not managed to learn effectively ... may be the teaching content is beyond by pupils’ level of maturity...”

(Teacher A5, 18 years experience)

The complete answer of A5 is presented in 9.1 (f).

g. When teachers’ planning focuses on using various ways in order to meet pupils’ different learning types and abilities, reflection on the lesson is unnecessary.

The above theory in use was reflected in the answer of A5:

“When I plan a lesson I think of various ways with which to meet pupils’ different learning types and abilities. I use drama, songs, mimic etc. E.g. I may ask pupils to present arguments through a dialogue that they act out... I use many visual aids too... So I do not need to reflect on whether anything should change in my lessons in order to maximize pupils’ understanding and learning...”

(Teacher A5, 18 years experience)

10.2 Teachers 12-13 years

a. Practice must be critically examined.

This theory in use was revealed in the answers of B1 and B3:

“If outcomes are unsatisfactory you must discover what is wrong ... As a professional you ought to know the factors that caused unsatisfactory outcomes.”

(Teacher B1, 13 years experience)

“I reflect on the teaching approaches I used in order to find out what I did wrong or what I did well. I start from the goals I set. Were they appropriate?”

Were they fit for the pupils' level? Then I think of my teaching. Did my approach and the activities I used help all the pupils learn effectively or did they help only some pupils? Why couldn't all the pupils follow my teaching in order to learn?"

(Teacher B1, 13 years experience)

"I ask myself: where did I succeed? Why? Where did I not succeed? Why? E.g. When I do not manage to implement cooperative learning successfully I ask myself: Is it because pupils couldn't understand the instructions or is it because they haven't learned how to cooperate? When pupils fail to discover information I ask myself: Were the questions and the text too difficult or haven't pupils become competent at discovering information yet?"

(Teacher B3, 13 years experience)

b. Changes in practice may be necessary in case of unsatisfactory outcomes.

This theory in use was revealed by teachers B1 and B3:

"When outcomes are unsatisfactory I think: What could I have done differently? ... I try to change the way I work, my methods..."

(Teacher B1, 13 years experience)

"By reflecting on your practice you know where you have succeeded and where you haven't. You can try again the approaches that brought about successful outcomes. You can work on improving or changing the approaches that did not lead to successful outcomes."

(Teacher B3, 13 years experience)

"If my pupils do not understand well by engaging in certain activities, then I must find other activities through which they will understand better."

(Teacher B3, 13 years experience)

c. Unsatisfactory outcomes may be due to lack of enough practice.

This theory in use was revealed in the answers of B2, B4, B5 and B6:

“I believe pupils sometimes just need time to practise in order to understand.”

(Teacher B2, 13 years experience)

“I let pupils practise as much as possible because when they practise a lot in the end they learn.”

(Teacher B4, 12 years experience)

“I allow pupils to practise for more time with exercises with which they faced difficulties. Sometimes pupils need more time to practise in order to achieve a comprehensive understanding. Maybe the necessary time has not been given to them in order to practise and this is the reason for their failure.”

(Teacher B5, 13 years experience)

“I give pupils homework concerning the topics, pupils have difficulties with, so as to practise...”

(Teacher B6, 13 years experience)

d. By explaining again pupils will understand.

This theory in use was revealed in an answer of B6. This answer is presented in 9.2

(b).

e. Unsatisfactory outcomes may be due to pupils' level.

This theory in use was revealed in an answer by B5. This answer is presented in 9.2

(c).

f. Reflection between espoused beliefs and practice is unnecessary because they guide one's actions unconsciously.

The above theory in use was revealed in the answers of B2 and B5:

“Unconsciously we always reflect on beliefs we have considering teaching.”

(Teacher B2, 13 years experience)

“Many times we underpin our teaching on ideas without knowing whether these are theories of learning developed by an important educator or researcher... A lesson may not necessarily be underpinned by one theory or one principle. It may be underpinned by many. When you have experience, by instinct you understand what theories or principles must underpin your teaching. Consequently it is unnecessary to reflect between theories or principles you espouse and practice.”

(Teacher B5, 13 years experience)

10.3 Teachers 1-2 years

a. Outcomes must be critically examined.

This theory in use was reflected in the answers of all the teachers with an experience of 1-2 years.

“I use to examine what kind of outcomes I have...”

(Teacher C1, 1 year experience)

“I examine whether there are pupils who did not understand...”

(Teacher C2, 2 years experience)

“I examine whether my goals were achieved...”

(Teacher C3, 1 year experience)

“I examine which pupils learnt effectively and which pupils did not understand...”

(Teacher C4, 2 years experience)

“Did I achieve my goals? Why have my goals not been achieved?”

(Teacher C5, 1 year experience)

“I examine whether my goals were achieved. Pupils’ interest and understanding usually shows whether they were achieved.”

(Teacher C6, 1 year experience)

b. Changes in one’s practice may be necessary due to unsatisfactory outcomes.

This theory in use was revealed in the answers of C1, C3, C5, C6:

“I try to change my approach when pupils have not understood effectively...”

(Teacher C1, 1 year experience)

“When pupils do not understand, as much as they should, I think that I may not have explained in the right way and hence that I must change the way I have explained...”

(Teacher C3, 1 year experience)

“I reflect on practice to see whether I should use a different approach or method...”

(Teacher C5, 1 year experience)

“When pupils do not learn effectively I try to teach the same topic using a different way of teaching or different activities that promote learning more effectively...”

(Teacher C6, 1 year experience)

C. Explaining again.

C.1 Explaining again can promote effective learning.

Teacher C4 claimed that explaining many times a topic to pupils may be necessary in order that they understand. This answer is presented in section 9.3 (b).

C.2 Explaining again how exercises are solved on the board is a form of practice with the whole class.

This theory in use is reflected in the answer of C3, which is presented in 9.3 (b).

C.3 Explaining again in the same way is necessary due to possible lack of pupils' attention.

This theory in use was reflected in the answer of C5, which is presented in 9.3 (b).

d. The use of a more simple form of expression is a different way of teaching.

This theory in use was reflected in the answer of teacher C5 which is presented in section 9.3 (b.1.1)

e. Simplification of numbers, sentences or of the examples used is necessary to boost learning.

This theory in use is reflected in the answers of C1, C3, C5 and C6.

“If pupils have difficulties in solving problems, I give them problems with easier numbers... When I discuss a topic I use examples closer to pupils’ lives.”

(Teacher C1, 1 year experience)

“I make changes in my approach... I use more examples from every day life... I use easier numbers. I tell pupils or I write on the board easier sentences to fill in...”

(Teacher C3, 1 year experience)

“... I use easier numbers to help pupils solve problems.”

(Teacher C5, 1 year experience)

“Sometimes sentences are difficult and pupils cannot understand their meaning. As a result they cannot fill in the appropriate form of the verbs they are given. So I give them easier sentences... In mathematics I also use easier numbers to help pupils understand better.”

(Teacher C6, 1 year experience)

f. Teaching must be repeated in case that time was not enough.

This theory in use was reflected in the answer of C2, which is presented in part 9.3

(b).

g. Abandon or use as less as often an approach or a method in order to eliminate difficulties that arise with its use.

The answers of teachers C1, C4, C5 and C6 in part 9.3(c) show that they abandoned or used less often methods such as discovery and cooperative learning due to problems that arose in their classes.

h. No action is necessary to be taken for topics where outcomes are unsatisfactory if these topics will be taught again.

This theory in use is reflected in teacher's C5 answer which is presented in section 4.9.3 (f)

I. No need to reflect further on practice if unsatisfactory outcomes have been expected.

This theory in use was reflected in the answer of teacher C2:

“The colleague, who teaches the same grade, and I mention the outcomes of our pupils’ tests to each other. We do not discuss whether we should do anything about these outcomes because they are usually the expected for our pupils’ level...”

(Teacher C2, 2 years experience)

J. When teachers' planning involves the use of visual aids or practice with objects or drawings, further reflection on the use of these aids or of this kind of practice is unnecessary:

This theory in use is reflected in the answer of teacher C5:

“I do not reflect on whether my teaching might need more visual aids or whether pupils might have understood better if they had practised with objects or drawings. The reason is that when I plan what to teach I always use to think in advance what kind of visual aids can be used.”

(Teacher C5, 1 year experience)

K. When outcomes are unsatisfactory pupils need more practice.

This theory in use was reflected in the answers of C1, C2, C3 and C4. (See a.1 in 9.3)

11. REFLECTION ON OUTCOMES WITH COLLEAGUES

11.1 Teachers 17-18 years and 12-13 years

All the teachers of the above groups, except for teacher B5, claimed that reflection on practice with colleagues can be a source of learning. Teachers A1, A5, A6, B1 and B6 made this claim without setting any precondition:

“As I have said I can learn a lot from colleagues...”

(Teacher A1, 18 years experience)

“Colleagues can help you improve your practice...”

(Teacher A5, 18 years experience)

“... Through discussions with colleagues you may learn new ideas to approach various topics...”

(Teacher A6, 18 years experience)

“As I have said colleagues can tell you many useful ideas to improve your teaching...”

(Teacher B1, 13 years experience)

“You can learn a lot from colleagues when discussing how to achieve better outcomes...”

(Teacher B6, 13 years experience)

Three teachers from each of the above groups (A2, A3, A4, B2, B3, B4) stressed that reflection on practice with other colleagues demands trust:

“Colleagues can tell you very good suggestions in order to teach more effectively... But you must trust the other person in order to feel comfortable to tell them that your teaching was unsatisfactory...”

(Teacher A2, 18 years of experience)

“As I have said before, colleagues may be able to help you, but you must trust them...”

(Teacher A3, 17 years experience)

“When colleagues are trusted and you can talk to them without worrying that they may underestimate you or discuss about you in a negative way, they can give you very useful ideas.”

(Teacher A4, 18 years experience)

“Other colleagues may have useful ideas to teach better topics, where outcomes were unsatisfactory... But you cannot discuss these topics if you do not trust the other person...”

(Teacher B2, 13 years experience)

“As I have said, colleagues have helped me a lot to improve my practice. I usually however, talk to colleagues I feel comfortable with...”

(Teacher B3, 13 years experience)

“Colleagues can tell you new ideas about teaching... But you must trust them...”

(Teacher B4, 12 years experience)

Teacher B5 claimed that she wants to reflect on her own whether the outcomes of her practice are satisfactory:

“...I do not want to reflect on practice with colleagues on whether the outcomes of my teaching are satisfactory. I strongly believe that I am the most suitable person to reflect on whether the outcomes of my teaching are satisfactory...”

(Teacher B5, 13 years experience)

11.2 Teachers 1-2 years

Three teachers (C3, C4, C6) claimed that reflection on practice with colleagues can be a source of useful suggestions:

“It is important. Colleagues can give you useful ideas... The teacher, who teaches the other grade, and I do not use to discuss whether the outcomes of each other’s teaching are satisfactory. We usually discuss generally about our pupils, the topics we will teach...”

(Teacher C3, 1 year experience)

“It is good to exchange views, but due to lack of time we only coordinate...”

(Teacher C4, 2 years experience)

“It is very important to discuss practice with colleagues in order to learn...”

(Teacher C6, 1 year of experience)

Three teachers (C1, C2, C5) claimed that teachers must not reflect with colleagues on whether the outcomes of their teaching are satisfactory, but only ask for suggestions:

“It is not necessary to reflect with colleagues on whether the outcomes of your practice are satisfactory. You can do it on your own. What is necessary is to ask for suggestions when outcomes are unsatisfactory.”

(Teacher C1, 1 year experience)

“I believe teachers must ask their colleagues for advice when outcomes are unsatisfactory. There are colleagues with more experience, who can give you useful advice. Whether outcomes are satisfactory or not is something they can understand on their own.”

(Teacher C2, 2 years experience)

“I do not believe that teachers should reflect with colleagues on whether they achieve the outcomes they should have achieved. I believe that I am the most suitable person to reflect on whether I have achieved satisfactory outcomes. I believe though that I should ask suggestions from more experienced colleagues, in order to improve unsatisfactory outcomes.”

(Teacher C5, 1 year experience)

12. FORMS OF REFLECTION WITH COLLEAGUES BETWEEN PRACTICE AND OUTCOMES

12.1 Teachers 17-18 years

a. Asking for suggestions after referring to approaches that led to unsatisfactory outcomes.

Four teachers (A1, A2, A4, A6) claimed to ask their colleagues to tell them suggestions to replace approaches that led to unsatisfactory outcomes, after presenting these unsuccessful approaches:

“I do not know everything. When an approach I implement does not lead to satisfactory outcomes I tell a colleague about it and I ask for suggestions.”

(Teacher A1, 18 years experience)

“Many times I tell my colleague, who teaches the same grade: My pupils have not understood well with the approach I have used. I mention how I taught and then I ask: How did you teach it? Is there a different way?”

(Teacher A2, 18 years experience)

“A few years ago a colleague, who is a good friend of mine, was teaching the same grade as I. We used to plan together how to teach. During teaching we might differentiate the approach. Afterwards we used to discuss which of our approaches were successful and which were not. Then we used to discuss different approaches to replace the unsuccessful ones.”

(Teacher A4, 18 years experience)

“When I do not feel satisfied with the approach I have used to teach a topic, I tell a colleague about this and I ask: How did you teach this? How could you teach this? Tell me ideas...”

(Teacher A6, 18 years experience)

Examples in which teachers A1, A2, A4 and A6 mention to colleagues unsuccessful approaches and ask for suggestions are presented in 13.1 (a).

b. Comparison of the approaches used by two teachers to teach the same topic in the same class.

Teacher A2 claimed that when the colleagues, who teach the same grade are trusted, she may ask them to teach in her class topics that she has taught without satisfactory outcomes. A discussion about how these colleagues differentiated their approach follows.

“When the colleagues, who teach the same grade are people I trust, I ask them to teach in my class topics that I have taught without satisfactory outcomes.

Afterwards we discuss how they differentiated their approach in comparison to mine.”

(Teacher A2, 18 years experience)

c. Discussion about the implementation of methods.

Teacher A5 claimed to engage in discussions about the effective implementation of methods:

“I used to ask colleagues suggestions to become more effective. They suggested and encouraged me to use various teaching methods so as to meet learning needs of pupils whose learning types are different.”

(Teacher A5, 18 years experience)

d. Discussion about goals.

Teacher A5 claimed to discuss with colleagues, who teach the same grade, the goals they have set.

“The colleague, who teaches the same grade, and I often discuss about the goals we have set for the lessons we will teach...”

(Teacher A5, 18 years experience)

e. Coordination.

Teacher A3 claimed to coordinate her teaching with the colleague who teaches the same grade.

“I use to coordinate my teaching with the teacher who teaches the same grade.”

(Teacher A5, 18 years experience)

f. Discussion about pupils' outcomes.

Teacher A5 claimed that she and the colleague, who teaches the same grade, often engage in discussions about their pupils' outcomes:

“Many times we discuss with the colleagues, who teach the same grade, about our pupils' outcomes. When outcomes are unsatisfactory we allow pupils more time to practise.”

(Teacher A5, 18 years experience)

12.2 Teachers 12-13 years

a. Asking for suggestions after referring to approaches that led to unsatisfactory outcomes.

Two teachers (B1, B3) claimed to ask their colleagues for suggestions in order to replace approaches that led to unsatisfactory outcomes:

“I use to tell my colleagues: I followed this procedure... My pupils did not understand ... what do you think I should do in order that all my pupils have a better understanding?”

(Teacher B1, 13 years experience)

“I ask a colleague, with whom I feel comfortable to discuss practice with and who used to teach the same grade, suggestions about activities to use in cases where the activities I implement do not lead to satisfactory outcomes.”

(Teacher B3, 13 years experience)

Examples in which teachers B1 and B3 mention to colleagues unsuccessful approaches and ask for suggestions are presented in section 13.2.

b. Coordination

Teachers B2, B4, B5 and B6 claimed to coordinate their teaching with colleagues who teach the same grade:

“I use to coordinate with the teacher, who teaches the same grade.”

(Teacher B2, 13 years experience)

“The teacher, who teaches the same grade, and I use to discuss what topics we will teach so as both classes will be taught the same.”

(Teacher B4, 12 years experience)

“At the beginning of each week we engage in coordination...”

(Teacher B5, 13 years experience)

“Our discussions are usually about what topics we will teach...”

(Teacher B6, 13 years experience)

c. Planning activities.

Teacher B6 claimed that she and the colleague, who teaches the same grade, use to plan together activities which are in line with certain teaching methods:

“If the lessons we will teach will involve activities with which the communicational approach will be implemented, we discuss what activities to do.”

(Teacher B6, 13 years experience)

12.3 Teachers 1-2 years

a. Discussions about teaching methods.

Teacher C5 claimed to engage in the above kind of discussions:

“I have sometimes engaged with colleagues in discussions about the advantages and disadvantages of implementing various teaching methods. We usually mention to each other examples from our practice which show these advantages or disadvantages...”

(Teacher C5, 1 year experience)

b. Coordination

Teachers C1, C2, C3, C4 and C6 claimed to coordinate their teaching with colleagues who teach the same grade:

“We coordinate with the teacher of the other class so as to teach the same topics.”

(Teacher C1, 1 year experience)

“We use to agree to teach the same topics each week.”

(Teacher C2, 2 years experience)

“We usually coordinate with the teacher who teaches the same grade.”

(Teacher C3, 1 year experience)

“The colleague who teaches the same grade and I use to coordinate our teaching and exchange handouts.”

(Teacher C4, 2 years experience)

c. Planning activities.

Teachers C2, C4, C5 and C6 claimed to ask their colleagues’ opinion about activities they plan to do:

“The teacher, who teaches the same grade and I exchange views about activities we can do in our lessons...”

(Teacher C2, 2 years experience)

“... We examine whether there are topics, which we can teach by implementing cooperative learning and in this case what activities to do.”

(Teacher C4, 2 years experience)

“I had to teach a specific topic in mathematics for which I was not feeling sure about. So I asked a colleague, who has an M.A. in mathematics to tell me his opinion about the way I had planned to teach this topic.”

(Teacher C5, 1 year experience)

“I use to ask my colleagues’ opinion about activities I plan to do. E.g. I ask: What is you opinion of this activity? Do you have anything else to suggest?...”

(Teacher C6, 1 year experience)

d. Mentioning pupils’ outcomes.

Teacher C2 claimed to engage in this kind of discussion:

“The teacher, who teaches the same grade, and I mention to each other the outcomes of our pupils’ tests. We do not discuss whether we should do anything about these outcomes because they are usually the expected for our pupils’ level.”

(Teacher C2, 2 years experience)

e. Discussion about pupils’ level and classroom management.

Teacher C3 claimed to engage in the above kind of discussion:

“I do not reflect with colleagues on my practice in the way you ask. We usually discuss about our pupils’ level or behaviour. We do not usually decide to do anything about these issues. We just inform each other about our pupils.”

(Teacher C3, 1 year experience)

13. FORMS OF DIFFERENTIATING PRACTICE AFTER REFLECTION ON PRACTICE WITH COLLEAGUES ON OUTCOMES

13.1 Teachers 17-18 years

a. From explaining theoretically to using objects or drawings in mathematics.

Three teachers (A1, A2, A4) talked about colleagues' suggestions which focused on letting pupils work with objects or drawings:

"I explained to pupils the theory to multiply fractions. Outcomes were poor. I told a colleague with expertise in mathematics what I did and I asked if there was a different way to teach this topic. My colleague suggested to begin the lesson with simple multiplications such as two times four and then move on to half times four or half times 8, so that pupils would begin to realize that half times 8 actually means to divide 8 in half. Then he suggested giving pupils pieces of paper which represent $\frac{1}{4}$ and ask them to multiply it two times, one time and then half a time. In this case pupils had to cut this piece in half in order to have $\frac{1}{8}$. In this way they understood how multiplications are done through their own actions..."

(Teacher A1, 18 years experience)

"I had explained theoretically what decimals are, but pupils were confused. I told a colleague what I did and asked for a different way to teach this topic. My colleague suggested telling pupils to represent decimals on graph paper."

(Teacher A2, 18 years experience)

"I had demonstrated on the board how to add fractions. Pupils had difficulties. I told a colleague, who has expertise in mathematics, what I did and I asked if this topic can be taught differently. My colleague suggested representing additions of fractions on graph paper... Outcomes were better."

(Teacher A4, 18 years experience)

b. Simplification of the same approach.

“Colleagues have suggested to me, many times, how to implement the same approach in a more simplified way. E.g. how to follow more simple stages in order to teach a topic. In this way pupils understand better.”

(Teacher A6, 18 years experience)

c. More time to pupils to practise.

Teacher A5 said that she and the colleague who teaches the same grade, many times, decide to allow pupils more time to practise when outcomes are unsatisfactory. See part 12.1 (f).

13.2 Teachers 12-13 years

a. Different approaches

a.1 Theory to objects.

Teacher B3 mentioned a suggestion to use objects in teaching instead of explaining verbally:

“I used to tell pupils problems involving coins, but pupils found it very difficult to find the answers. So I told a colleague about it and asked for a suggestion. He suggested letting pupils use real coins in order to solve the problems.”

(Teacher B3, 13 years experience)

a.2 From theory to real situation experiences.

Teacher B3 mentioned a suggestion to let pupils learn from real life situations instead of discussing about pictures:

“I used to discuss social topics by using pictures. Pupils’ response was poor. I discussed this with a colleague and asked for advice. My colleague suggested visits to the kind of people, we were discussing, in their real life situations. In this way pupils could observe these people in their surroundings and elicit information through interviews.”

(Teacher B3, 13 years experience)

a.3 From providing pupils questions to investigate to allowing pupils to discover what to investigate themselves.

Teacher B3 mentioned a suggestion to allow pupils to discover themselves questions to investigate:

“I used to ask pupils questions in order to search for information from a text. A colleague suggested that pupils could learn to discover information in a more critical way if I did not set the questions myself, but ask pupils to tell me what information they had already known and what they would like to find out. Then I would not only ask what they had found out, but also what information they would like to find out, but did not.”

(Teacher B1, 13 years experience)

b. Modification of the same approach.

b.1 Simplification

Teacher B1 and B3 mentioned two suggestions about simplifying their approach:

“I used to tell pupils the theory of how to find the Minimum Common Multiple and the Maximum Common Divider separately. Pupils had

difficulties though. So I asked a colleague for a suggestion. She suggested showing pupils a way with which they could find both the Minimum Common Multiple and the Maximum Common Divider simultaneously. Pupils were relieved of the confusion.”

(Teacher B1, 13 years experience)

“I used to ask pupils questions in order to tell the story. But when texts were long pupils had difficulties. A colleague suggested writing sentences about the text which the pupils would mark as true or false. Then using these sentences they could easily tell the story.”

(Teacher B3, 13 years experience)

b.2 Devoting more time to oral practice.

Teacher B1 mentioned a suggestion to increase time on oral practice for better outcomes:

“When I was teaching ratios I used to explain the theory and give pupils a lot of written exercises to practise. Yet pupils could not find the answers easily when I asked them orally. A colleague told me that it was vital to spend time asking pupils simple problems concerning ratios so that they would learn this procedure, before moving to written exercises. It really helped pupils.”

(Teacher B1, 13 years experience)

b.3 Adjusting an approach to the needs of specific pupils.

Teacher B3 mentioned a suggestion about how to adjust her teaching to the needs of a specific pupil:

“In grade 1 I used to have pictures on the board with the words underneath. Pupils read this word, then the first letter and finally wrote this letter. A pupil had difficulties though. A colleague suggested to give this pupil handouts

with pictures and words underneath, ask him to read the word and circle the first letter while reading it. This helped him concentrate.”

(Teacher B3, 13 years experience)

13.3 Teachers 1-2 years

No action

Teacher C2 claimed that she and the colleague, who teaches the same grade, usually do nothing when their pupils’ outcomes are unsatisfactory because such outcomes are expected for their pupils’ level (see d in 12.3). Teacher C3 claimed that the discussions she has with the teacher of the same grade, about pupils’ outcomes and behaviour are of informatory nature. (See e in 12.3)

14. ESPOUSED BELIEFS AND PRACTICE

14.1 Teachers 17-18 years

Table 3 presents the attitudes of teachers with an experience of 17-18 years towards reflection between espoused beliefs and practice as well as what they actually do.

TABLE 3
Espoused beliefs and practice
Teachers 17-18 years

Teachers	Years	Attitude	Present Situation
A1	18	√	√
A2	18	X	X
A3	17	X	X
A4	18	√	X
A5	18	√	√
A6	18	√	X

Table 3 shows that four teachers (A1, A4, A5, A6) have a positive attitude towards reflection on whether one's practice is underpinned by the beliefs one espouses. Two teachers (A2, A3) have a negative attitude. Two of the teachers, who are positive towards this kind of reflection (A4, A6) do not engage in this kind of reflection.

14.1.1 Reasons for not supporting reflection between espoused beliefs and practice.

a) Devotion in certain beliefs guarantees their implementation:

“Reflection on whether one has acted according to one's beliefs is unconscious and internal... If teachers strongly feel that they must teach according to certain beliefs, then they will...”

(Teacher A2, 18 years experience)

b) A bad feeling warns when one's beliefs have not been implemented:

“How you feel about your teaching can show you whether you have worked according to your beliefs...”

(Teacher A2, 18 years experience)

c) The implementation of espoused theories of learning is not a prerequisite for effectiveness:

“Why should I reflect on whether my lesson is based on theories of learning I believe in? If my lesson is not based on these, will it mean that I must necessarily not have taught effectively? ...”

(Teacher A3, 17 years experience)

d) A teacher's goal should be effective learning and not the implementation of theories of learning:

“When I teach my goal is not the implementation of theories of learning. My goal is effective learning...”

(Teacher A3, 17 years experience)

14.1.2 Reasons for supporting reflection between espoused beliefs and practice.

a. False impression of implementing a method.

The above view was reflected in the answers of A1, A4, A5 and A6:

“Many times we say we teach according to a certain method, but this may be superficial. E.g. we say pupils cooperate, but they just sit together.”

(Teacher A1, 18 years experience)

“I may end up guiding pupils to a very high degree and I may not be aware of it...”

(Teacher A4, 18 years experience)

“It is important to examine if one is teaching according to the beliefs that underpin the methods one uses, because then you will try to implement these methods better.”

(Teacher A5, 18 years experience)

“I believe that we should reflect on whether we have taught according to the way we believe we have because what we say about our practice may not always match what we do.”

(Teacher A6, 18 years experience)

14.1.3 Reasons for not reflecting between beliefs and practice despite the recognition of its importance.

a. It demands an external observer:

The above view was expressed by A4:

“It demands an external observer to tell you whether you have implemented certain beliefs or not. On our own we may be subjective... Besides I do not believe that I have the necessary skills...”

(Teacher A4, 18 years experience)

b. This kind of reflection takes place only in action due to lack of time:

“Unfortunately I do not have time to reflect on whether I have taught according to the way I believe I have. During teaching however, I identify which abilities the pupils lack in order to work according to a method or the way I have planned a lesson. (E.g. to work cooperatively or to be critical...)”

(Teacher A6, 18 years experience)

14.2 Teachers 12-13 years

Table 4 presents the attitudes of teachers, with an experience of 12 to 13 years, towards reflection between espoused beliefs and actions, as well as what they actually do.

TABLE 4
Espoused beliefs and practice
Teachers 12-13 years

Teachers	Years	Attitude	Present Situation
B1	13	√	√
B2	13	X	X
B3	13	√	√
B4	12	√	X
B5	13	X	X
B6	13	√	X

Table 4 shows that four teachers (B1, B3, B4, B6) have a positive attitude towards reflection between beliefs one espouses and actions. Two teachers (B2, B5) have a negative attitude. This table also shows that two of the teachers, who have a positive attitude (B4, B6), do not engage in this kind of reflection.

14.2.1 Reasons for not supporting reflection between espoused beliefs and actions

a. Reflection between beliefs and actions is unconscious.

This view was reflected in the answers of B2 and B5. (See f in 10.2)

b. Reflection on outcomes is more effective.

The above view was expressed by B5:

“It is better to reflect on outcomes... Outcomes give you feedback on how to proceed.”

(Teacher B5, 13 years experience)

14.2.2 Reasons for supporting reflection between espoused beliefs and actions

a. Awareness of one’s actual practice.

Teacher B1 claimed that reflection between espoused beliefs and actions can help teachers become aware of what they actually do in class:

“This is reflective practice; to examine what you are actually doing and what you are achieving...”

(Teacher B1, 13 years experience)

b. To examine whether you have implemented the theory that underpins a teaching method.

The above opinion was expressed by B3 and B6:

“You must reflect on whether your teaching is underpinned by the theories on which the teaching methods, that you implement, are based.”

(Teacher B3, 13 years experience)

“If you want your pupils to learn effectively, it is important to reflect on whether you are implementing the theories that underpin the methods you use in your teaching.”

(Teacher B6, 13 years experience)

c. To check whether the theories or principles of learning you are implementing promote effective learning.

The above view was reflected in the answer of teacher B4:

“It is important to examine whether the theory on which you underpin your practice promotes effective learning. If you are not effective with one theory, you must use another.”

(Teacher B4, 12 years experience)

14.2.3 Reasons for not reflecting between espoused beliefs and actions despite the recognition of its importance.

a. Lack of time.

This view was expressed by B4:

“...Unfortunately I do not have the time to reflect between espoused beliefs and practice.”

(Teacher B4, 12 years experience)

b. Preference for reflection between actions and outcomes.

The above view was supported by B6:

“It is usually the very successful or unsuccessful lessons that motivate me to examine whether I have implemented the appropriate approach in order to achieve my goals.”

(Teacher B6, 13 years experience)

14.3 Teachers 1-2 years

Table 5 presents the attitudes of teachers with an experience of 1-2 years towards reflection between espoused beliefs and practice, as well as what they do.

TABLE 5

**Reflection between espoused beliefs and practice
Teachers 1-2 years**

Teachers	Years	Attitude	Present Situation
C1	1	√	X
C2	2	√	√
C3	1	√	√
C4	2	√	X
C5	1	X	X
C6	1	√	X

Table 5 shows that 5 teachers (C1, C2, C3, C4, C6) have a positive attitude towards reflection between espoused beliefs and practice. One teacher (C5) has a negative attitude. Three of the teachers (C1, C4, C6), who have a positive attitude towards reflection between espoused beliefs and practice, do not engage in this kind of reflection.

14.3.1. Reasons for not supporting reflection between espoused beliefs and practice.

a. Preference for reflection between actions and outcomes.

The above view was supported by C5:

“I do not believe that a teacher’s aim must be the implementation of a particular theory or principle of learning. Consequently teachers should not evaluate their teaching on whether they have implemented a particular theory or principle successfully. The important thing is to reflect on whether they have fulfilled their goals. Once the goals are achieved, what principle or theory one has implemented does not matter...”

(Teacher C5, 1 year experience)

b. Awareness of which methods a teacher has used is necessary only when outcomes are unsatisfactory.

The above view was supported by teacher C5:

“When I plan, I must be aware of what methods I intend to use. In the case that outcomes are unsatisfactory this could be due to the method I have implemented. Consequently it is important to know what method I have implemented so as to change it...”

(Teacher C5, 1 year experience)

14.3.2 Reasons for supporting reflection between espoused beliefs and practice

a. Awareness of whether the intended approach was implemented.

The above view was supported by C1:

“It is important that teachers reflect on whether they have followed the approach they think...”

(Teacher C1, 1 year experience)

b. Awareness of whether methods one aimed to implement have been implemented.

The above view was reflected in the answers of C2, C3, C4 and C6:

“When you implement a teaching method, it is important to examine whether pupils respond to the instructions you give them.”

(Teacher C2, 2 years experience)

“When you implement a teaching method it is vital to check if pupils work in the way you planned.”

(Teacher C3, 1 year experience)

“It is useful to identify cases where the pupils did not work according to the methods you have implemented.”

(Teacher C4, 1 year experience)

“Teachers must rethink their implementation of a teaching method when pupils cannot respond to their teaching successfully.”

(Teacher C6, 1 year experience)

14.3.3 Reasons for not engaging in reflection between espoused beliefs and practice despite the recognition of its importance.

Teachers C1, C4 and C6 claimed not to engage in the above kind of reflection due to lack of time:

“Due to lack of time I reflect only on the approaches I will follow in the lessons I plan...”

(Teacher C1, 1 year experience)

“I do not reflect systematically on whether I have implemented appropriately the methods I planned due to lack of time...”

(Teacher C4, 2 years experience)

“Due to pressure to teach so many subjects I usually focus on the lessons I will teach, not on whether the lesson was actually underpinned by the principles I had planned to use.”

(Teacher C6, 1 year experience)

15. What do teachers do in order to teach closer to the beliefs they espouse.

All the teachers, who claimed to reflect between espoused beliefs and practice (A1, A5, B1, B3, C2, C3) said that in order to meet relevant discrepancies, they teach pupils skills and attitudes, which will enable the latter to behave in class in line with the theoretical frameworks of the methods the teachers implement:

“It was the third time I was trying to implement cooperative learning. I started thinking: This is not cooperative learning. I am the one talking all the time... Why? ... I realized pupils could not work cooperatively because they did not have good interpersonal relations. Consequently I gave them small tasks to

fulfil in teams about various topics so as to realize the need to share ideas and cooperate.”

(Teacher A1, 18 years experience)

“...When pupils lack attitudes and skills, which are necessary in order to implement a particular method, I teach them some of these skills or help them adopt some of these attitudes through various activities, before implementing this method...”

(Teacher A5, 18 years experience)

“I give pupils small tasks that demand using the skills they lack and I give them individual help. I even set criteria so that pupils can check their progress or use them as a guide...”

(Teacher A6, 18 years experience)

“In my class it is very difficult to implement cooperative learning because the pupils are very competitive. So I set rules which aim to help pupils develop attitudes of respect for each other... Good pupils find it hard to cooperate with pupils who are not as good as they are... I discuss this issue privately with these pupils.”

(Teacher B1, 13 years experience)

“I examine if my pupils have worked according to a particular method. If they haven't I ask myself: Have they understood the instructions? If they have not I give easier instructions. If they still cannot cooperate I explain to them again how to work in groups and I give individual help in order to help them learn...”

(Teacher B3, 13 years experience)

“I had noticed that not all pupils were cooperating in their groups in order to do cooperative tasks. So I decided to set a criterion: that all pupils in all

groups take part in fulfilling a task. In order to motivate them to act in line with this criterion I put stars to the teams which met this criterion...”

(Teacher C2, 2 years experience)

“I assign roles to the pupils in each group in order that they learn how to work cooperatively”

(Teacher C3, 1 year experience)

16. REFLECTION WITH COLLEAGUES BETWEEN ESPOUSED BELIEFS AND ACTIONS.

16.1 Teachers 17-18

Table 6 shows the attitudes of teachers with an experience of 17-18 years towards reflecting with colleagues on whether one’s practice is underpinned by the beliefs one espouses as well as whether they actually engage with colleagues in this kind of reflection.

TABLE 6

**Reflection with colleagues between espoused beliefs and practice
Teachers 17-18 years**

Teachers	Years	Attitude	Present Situation
A1	18	X	X
A2	18	X	X
A3	17	X	X
A4	18	√	X
A5	18	√	√
A6	18	√	X

Table 6 shows that three teachers (A4, A5, A6) are positive towards reflecting with colleagues on whether their practice is underpinned by the beliefs they espouse. Three teachers (A1, A2, A3) have a negative attitude. Two teachers (A4, A6), who also have a positive attitude, do not engage with colleagues in this kind of reflection.

16.1.1 Reasons why teachers are negative towards reflection with colleagues between espoused beliefs and practice.

a. Desire to struggle alone in order to find solutions, before turning to others for help.

This view was expressed by A1:

“I usually reflect on whether I have worked according to the beliefs that underpin a method, on my own. I do not know why. I believe it is a personality thing. I use to solve problems alone. I use to turn to others when I have tried unsuccessfully to solve them on my own.”

(Teacher A1, 18 years experience)

b. Preference to discuss about the effective implementation of methods.

The above view was reflected in the answer of teacher A1:

“When I do not feel satisfied with the implementation of certain methods, I will reflect alone on how to implement these methods better. In the meantime I may discuss with colleagues their view of these methods, how they have implemented them in their class, the outcomes they had...”

(Teacher A1, 18 years experience)

c. Lack of trust.

Teacher A2 claimed that this kind of reflection demands trust:

“Reflecting with others on whether you have worked according to certain beliefs or principles is important, but it is difficult. It is not easy to listen to

your development needs without getting defensive or accept criticism by someone who is as qualified as you. You need a trusted friend.”

(Teacher A2, 18 years experience)

d. Lack of time.

Teacher A2 claimed that “there is not time to engage with colleagues in this kind of reflection...”

e. A difficult matter.

Teacher A2 claimed that “examining whether one has taught according to the beliefs one espouses is difficult”.

f. Subjectiveness.

Teacher A2 claimed that “someone else’s judgement about which beliefs were underpinning another teacher’s lesson can be subjective”.

g. The fact that all the teachers have been taught the same theories of learning guarantees their implementation.

The above view was expressed by A3:

“We do not need to reflect with colleagues on whether our teaching is underpinned by theories of learning we espouse. We have all been taught the same theories and hence, I believe, we all teach according to the same theories. Consequently such discussions are unnecessary”.

(Teacher A3, 17 years experience)

16.1.2 Why teacher A5 engages in reflection with colleagues between beliefs and practice:

Teacher A5 claimed that the above kind of reflection can help her receive advice about how to implement a method properly:

“It is important to discuss with colleagues the difficulties you face when you are implementing a method because they can help you overcome them.”

(Teacher A5, 18 years experience)

16.1.3 Reasons for not reflecting with colleagues between espoused beliefs and practice.

a. It demands an external observer.

This view was expressed by A4:

“This kind of reflection demands that the colleagues, you discuss with, observe you teach. E.g. I may have the assumption that I have implemented discovery learning effectively and an observer may identify that I was telling pupils what to do most of the time...”

(Teacher A4, 18 years experience)

b. Preference to discuss approaches.

This view was expressed by A4:

“The colleague, I trust to discuss practice with, and I do not reflect between espoused beliefs and practice because beliefs are very general to discuss. We prefer to discuss about teaching approaches for various topics”.

(Teacher A4, 18 years experience)

c. It demands skills.

This view was expressed by A6:

“It is important, but colleagues with whom you will discuss, must have skills.”

(Teacher A6, 18 years experience)

16.2 Teachers 12-13 years

Table 7 presents the attitudes of teachers with an experience of 12 to 13 years considering reflection with colleagues between espoused beliefs and actions. The table shows which of these teachers engage in this kind of reflection with colleagues.

TABLE 7

**Reflection with colleagues between espoused beliefs and actions
Teachers 12-13 years**

Teachers	Years	Attitude	Present Situation
B1	13	√	√
B2	13	X	X
B3	13	√	X
B4	13	√	X
B5	13	X	X
B6	13	√	√

Table 7 shows that teachers B1, B3, B4 and B6 have a positive attitude towards reflection with colleagues between espoused beliefs and actions, where as teachers B2 and B5 have a negative attitude. It also shows that teacher B3 and B4 did not claim to engage in this kind of reflection with colleagues in spite of having a positive attitude.

16.2.1 Reasons why teachers are negative towards reflection with colleagues between espoused beliefs and actions.

a. Lack of trust.

Teacher B2 claimed that she does not engage in any kind of reflection with colleagues due to lack of trust.

b. Preference for reflection between outcomes and practice.

As it has been mentioned in 14.2.1 (b) teacher B5 believes that teachers must reflect only between outcomes and practice, in order to understand where they need to develop.

16.2.2 Reasons for not reflecting with colleagues between espoused beliefs and practice despite the recognition of its importance.

a. Preference to ask for suggestions about the effective implementation of a method due to lack of opportunity to be observed.

The above view was expressed by B3:

“If you want to discuss with colleagues about whether you have implemented a method effectively, they must have observed you teach. It is much better than just describing what you did. We are not usually given such an opportunity at schools. Since I do not have an observer to identify developmental needs I use to ask colleagues to tell me suggestions in order to implement various methods more effectively.”

(Teacher B3, 13 years experience)

b. Lack of time.

Teacher B4 claimed that this is the reason she does not engage in this kind of reflection with colleagues.

16.2.3 Reasons why teachers B1 and B6 claim to engage with colleagues in reflection between beliefs and practice.

a. To receive ideas about the effective implementation of methods.

This view was expressed by B1:

“Colleagues can be a valuable source about how to implement a method more effectively.”

(Teacher B1, 13 years experience)

b. To receive new ideas.

The above view was expressed by B6:

“Reflection with colleagues between espoused beliefs and practice can help you receive new ideas. So I ask colleagues suggestions about how to implement methods more effectively.”

(Teacher B6, 13 years experience)

16.3 Teachers 1-2 years

Table 8 shows the attitudes of teachers with an experience of 1-2 years towards reflection with colleagues between espoused beliefs and practice. It also shows which teachers engage in this kind of reflection.

TABLE 8

Teachers 1-2 years
Reflection with colleagues between espoused beliefs and practice

Teachers	Years	Attitude	Present Situation
C1	1	X	X
C2	2	√	X
C3	1	√	X
C4	2	√	X
C5	1	X	X
C6	1	√	X

Table 8 shows that four teachers (C2, C3, C4, C6) have a positive attitude towards the above topic. Two teachers (C1, C5) have a negative attitude. This table also shows that the four teachers, who have a positive attitude towards reflection with colleagues between espoused beliefs and practice, do not engage in this kind of reflection.

16.3.1 Reasons why teachers are negative towards reflection with colleagues between espoused beliefs and practice.

a. Teachers' beliefs about how to achieve the same goals may differ.

The above view was expressed by C1:

“I do not believe teachers must reflect with others on whether they have taught according to the beliefs they espouse. Each teacher has his or her own beliefs. Consequently teachers may underpin their teaching on different beliefs, principles or theories in order to achieve the same goals. In such cases

reflection on the beliefs, theories or principles they have used, may lead to disagreements...”

(Teacher C1, 1 year experience)

b. Preference to ask for suggestions.

Teacher’s C1 answer reflected the above preference:

“Discussion with colleagues can be useful when outcomes are unsatisfactory, and teachers want to ask for suggestions about what they must change in their teaching in order to achieve better outcomes.”

(Teacher C1, 1 year experience)

c. Discussion about how other teachers implement certain methods is more important.

The above view was expressed by C5:

“I believe it is more important to discuss with colleagues how they have implemented certain methods and the outcomes they had. Through this exchange they can identify advantages and disadvantages of using certain principles in teaching...”

(Teacher C5, 1 year experience)

16.3.2 Reasons for supporting reflection with colleagues between espoused beliefs and practice.

a. To see whether a method has been implemented in the right way.

This view was expressed by C2:

“It is important to reflect with colleagues on whether your teaching is underpinned by the theoretical frameworks of a method you say you have

implemented. In this way you will examine whether you have used a certain theory in the right way.”

(Teacher C2, 2 years experience)

b. To see whether a method one has used was appropriate for the goals one has set.

This view was expressed by C6:

“It is important, so as to see whether the methods I use, can promote effective learning in certain topics or whether other methods are necessary...”

(Teacher C6, 1 year experience)

c. To learn more about teaching methods.

The above view was expressed by C3 and C4.

“It is important to discuss with colleagues about methods because you can learn a lot...”

(Teacher C3, 1 year experience)

“It is good to exchange views about whether it is good to use certain methods...”

(Teacher C4, 2 years experience)

16.3.3 Reasons for not reflecting with colleagues between espoused beliefs and practice despite the recognition of its importance.

a. Lack of time.

Teachers C2 and C6 claimed that lack of time is the reason for not engaging in the above kind of reflection.

b. Preference for discussing other topics.

Teachers C3 and C4 claimed to engage in discussions about their pupils' level, classroom management, coordination of their lessons and the planning of activities to promote cooperative learning. For their answers see part 12.3.

17. FORMS OF REFLECTION WITH COLLEAGUES BETWEEN ESPOUSED BELIEFS AND PRACTICE

17.1 Teachers 17-18 years

a. Discussion about teaching methods.

Teacher A5 claimed to engage in the above kind of discussion:

“We discuss about the implementation of certain methods and the difficulties we face. E.g. how the cooperative approach helps each other fulfil certain goals...”

(Teacher A5, 18 years experience)

17.2 Teachers 12-13 years

a. Discussion about teaching methods.

Teacher B1 claimed to engage systematically in the above kind of discussion:

“During meetings many colleagues make presentations about the implementation of various teaching methods. Whenever I find the time, I also use to discuss with colleagues about the implementation of various teaching methods.”

(Teacher B1, 13 years experience)

b. Asking for suggestions to implement a teaching method effectively.

Teacher B6 claimed to often ask colleagues for the above kind of suggestions:

“Many times I ask colleagues to tell me activities with which I can implement various teaching methods.”

(Teacher B6, 13 years experience)

18. CHARACTERISTICS OF COLLEAGUES WITH WHOM ONE CAN REFLECT ON PRACTICE

Table 9 presents characteristics that the teachers mentioned as essential for colleagues with whom one can reflect on practice with.

TABLE 9

Characteristics of colleagues Cypriot primary school teachers would like to reflect on practice with

Characteristics	Teachers/Teaching experience		
	1-2	12-13	1-18
Trust	C2, C3	B2, B3, B4, B5, B6	A1, A2, A3, A4, A6
Expertise and effectiveness	C1, C2, C3, C4, C5, C6	B1, B3, B4, B5	A2, A3, A4
Expertise in a subject	C5	-	A1
Reflectiveness	C2, C6	-	A1, A5, A6
Open-mindedness	C3, C4	B6	A1, A5, A6
Lack of selfishness	C4	B1, B6	A4, A5, A6
Knowledge of educational developments	C1, C2		A6
Willingness to admit to mistakes	-	-	A1
Organizational position with responsibility for teachers' professional development	-	-	A2
Objectiveness	-	B4	-
Willingness to reflect with others	C6	-	-

Table 9 shows that for the majority of the Cypriot teachers with an experience of 17-18 years and 12-13 years trusting that the colleagues, they will reflect on practice with, will not discuss about them in a negative way is of primary importance. For the teachers, with an experience of 1-2 years, the most important characteristics are effectiveness and expertise in general, which were mentioned by all the teachers.

For the teachers with an experience of 17-18 years the four most important characteristics after trust (mentioned by half of the teachers) were effectiveness and expertise in general, systematic reflection into one's practice, open mindedness to one's views and lack of selfishness. Characteristics of less importance are lack of selfishness (2 teachers), expertise in a subject (one teacher), willingness to admit to mistakes (one teacher), knowledge of educational developments (one teacher) and an organizational position with responsibility for teachers' professional development (one teacher).

For the teachers with a teaching experience of 12-13 years the most important characteristic, after trust, was effectiveness and expertise in general. Characteristics of less importance were lack of selfishness (two teachers) open mindedness (one teacher), objectiveness (one teacher).

For the teachers with an experience of 1-2 years no other characteristic was that important as effectiveness and expertise. Some other characteristics were mentioned by one or two teachers: reflectiveness (2), knowledge of educational developments (2), open mindedness (2), expertise in a subject (1), lack of selfishness (1), willingness to reflect with others on practice (1).

19. ATTITUDES

a. Desire to develop

All the teachers mentioned that the desire to develop is a major motive for reflecting on practice.

a. 1 Teachers 17-18 years

“Teachers who do not want to develop will just keep implementing teaching methods superficially.”

(Teacher A1, 18 years experience)

“The desire to develop is the motive to become more effective.”

(Teacher A2, 18 years experience)

“It is important to have the desire to develop if you aim to develop.”

(Teacher A3, 17 years experience)

“Without the desire to develop, how will you develop?”

(Teacher A4, 18 years experience)

“The desire for professional development can drive teachers to examine their practice critically.”

(Teacher A5, 18 years experience)

“Desire is important. It has the potential to lead to action. E.g. to start developing.”

(Teacher A6, 18 years experience)

a. 2 Teachers 12-13

“If you do not have a desire to develop you will not be responsible. If you want to develop you will feel responsible for what you do.”

(Teacher B1, 13 years experience)

“The desire to develop is necessary if you want to develop”

(Teacher B2, 13 years experience)

“If you do not have the desire to develop how will you become more effective?”

(Teacher B3, 13 years experience),

“If you want to develop professionally you will reflect on your practice systematically in order to find your developmental needs and meet them.”

(Teacher B4, 12 years experience)

“You must have the desire to develop if you are going to develop.”

(Teacher B5, 13 years experience)

“If you do not have the desire to develop, you will not develop.”

(Teacher B6, 13 years experience)

a. 3 Teachers 1-2 years

“The aim of reflective practice is professional development; to see what we must change in our teaching in order to help pupils learn more effectively. Consequently if someone wants to develop, he/she will engage in reflective practice.”

(Teacher C1, 1 year experience)

“It is important to have the desire to develop if you will really develop...”

(Teacher C2, 2 years experience)

“You must have the desire to develop professionally in order to work on your development.”

(Teacher C3, 1 year experience)

“The desire to develop is of primary importance. Without it you do not develop.”

(Teacher C4, 2 years experience)

“Teachers, who systematically reflect on their practice, must have the desire to develop. If you do not have the desire to develop, why would you reflect on practice anyway?”

(Teacher C5, 1 year experience)

“Without the desire to develop professionally, you will not develop.”

(Teacher C6, 1 year experience)

b. Responsibility

All the teachers claimed that responsibility is a driver to reflect on practice in order to identify where one needs to develop professionally so as to achieve better outcomes. Teachers A3, A5 and C5 however, claimed that responsible teachers must not only examine their teaching approach, but also the extent to which factors, which are beyond their control affect the outcomes of their teaching. Such factors are pupils' maturity, abilities and social background.

b. 1 Teachers 17-18 years

“You must feel the responsibility to achieve better outcomes in order to start reflecting on how to develop...”

(Teacher A1, 18 years experience)

“You must feel responsibility in order to start developing.”

(Teacher A2, 18 years experience)

“Teachers must feel responsible for the outcomes of their teaching, but they must also be aware of factors that also affect their teaching and for which they cannot do much or nothing at all. E.g. too much to teach, pupils' immaturity, family background, lack of time to teach a topic etc.

(Teacher A3, 18 years experience)

“When I do a test I evaluate my teaching. If outcomes are unsatisfactory I blame my teaching. Then I try to improve. Consequently responsibility is a motive to meet your developmental needs.”

(Teacher A4, 18 years experience)

“If you do not feel responsible, you will not examine your practice in order to identify the areas where you need to develop.”

(Teacher A5, 18 years experience)

“You must feel responsible, but you must also be aware of factors that affect either your professional development (e.g. school climate) or that affect pupils’ learning like pupils’ social and financial background, the suitability of the teaching content for the pupils’ maturity...”

(Teacher A6, 18 years experience)

b. 2 Teachers 12-13 years

“If you do not feel responsible for the outcomes of your work you will not feel the need to identify and meet your developmental needs.”

(Teacher B1, 13 years experience)

“Responsibility for the outcomes of one’s work is necessary for teachers who aim to develop professionally.”

(Teacher B2, 13 years experience)

“You must feel responsible if you reflect on practice in order to identify your developmental needs and meet them.”

(Teacher B3, 13 years experience)

“If you feel responsible you reflect on practice in order to see if your pupils have learned effectively.”

(Teacher B4, 12 years experience)

“Responsibility drives you to examine the outcomes of your practice systematically.”

(Teacher B5, 13 years experience)

“If someone is not responsible, then he/she will not care about the outcomes of his/her practice and hence he/she will not reflect on practice.”

(Teacher B6, 13 years experience)

b. 3 Teachers 1-2 years

“If you feel responsible for the outcomes of your practice, when outcomes are unsatisfactory you will feel the need to meet your developmental needs in order to teach more effectively.”

(Teacher C1, 1 year experience)

“If teachers feel responsible for the outcomes of their teaching, then they will examine these outcomes in order to see how they must improve their teaching and in this way help their pupils learn more effectively.”

(Teacher C2, 2 years experience)

“You must feel responsible for the outcomes of your work in order to use to reflect on your practice.”

(Teacher C3, 1 year experience)

“Teachers must feel responsible for the outcomes of their teaching. It is up to the teachers if pupils will learn. If there is 90% failure it is the teachers’ responsibility. If there is 70% success and 30% failure may be this is due to other reasons. We, as teachers, have part of the responsibility for the failure of the 30% of the pupils but since 70% of the pupils have learned, it means that there are other factors for this 30% failure. E.g. pupils’ background...”

(Teacher C4, 2 years experience)

“If you reflect on practice it means that you care for the outcomes of your work, that you feel responsible.”

(Teacher C5, 1 year experience)

“If you do not feel responsible for the outcomes of your work, you will not care to have better outcomes and hence you will not care to develop in order to achieve better outcomes.”

(Teacher C6, 1 year experience)

c. Open Mindedness

All the teachers claimed that an open mind is necessary for teachers, who aim to develop professionally, because it makes them receptive to others’ ideas. Teacher A1 claimed that open-minded persons are willing to admit to their mistakes. Teachers A3, A4, A6, C3 and C5 claimed that teachers must examine critically the suggestions they are given. Teacher B3 claimed that an open mind is a drive for professional exchange.

c. 1 Teachers 17-18 years

“I believe that teachers must be open to admit to their mistakes. They must not consider their mistakes as a personal failure, but as developmental needs

that must be met. Teachers, who try to hide their developmental needs, will not develop...”

(Teacher A1, 18 years experience)

“Open mindedness is necessary, especially now that new technologies are developing and hence we must learn to use these new technologies.”

(Teacher A2, 18 years experience)

“You must have an open mind, but you must be critical. Do not accept whatever you are told. Examine the suggestions you are given critically.”

(Teacher A3, 18 years experience)

“We must be open-minded. No one knows everything. Besides, knowledge is continuously developing; so there is always something new to learn. But you must not accept others’ suggestions uncritically. You must adjust these suggestions to your own teaching style.”

(Teacher A4, 18 years experience)

“You must be open-minded so as to accept suggestions about how to change your teaching and develop...”

(Teacher A5, 18 years experience)

“You must be open-minded to new suggestions if you want to develop. However, you must be critical. Do not accept everything simply because it is new.”

(Teacher A6, 18 years experience)

c. 2 Teachers 12-13 years

“Having an open mind is very important if you want to develop professionally. If teachers want to develop they must be continuously learning and this involves using others’ suggestions.”

(Teacher B1, 13 years experience)

“If you have an open mind you listen to others’ views and you learn.”

(Teacher B2, 13 years experience)

“An open mind is necessary in order to experiment with others’ suggestions. Open minded teachers seek other teachers’ suggestions and advice. Open-minded teachers do not want to reflect on practice alone.”

(Teacher B3, 13 years experience)

“If you do not have an open mind you will not listen to others’ suggestions.”

(Teacher B4, 12 years experience)

“You must be open-minded to learn new things.”

(Teacher B5, 13 years experience)

“Without an open mind you do not consider other ideas and you keep repeating yourself again and again.”

(Teacher B6, 13 years experience)

C. 3 Teachers 1-2 years

“An open mind is necessary if a teacher will develop.”

(Teacher C1, 1 year experience)

“We must have an open mind in order to learn new things and develop.”

(Teacher C2, 2 years experience)

“We must have an open mind. We must listen to other teachers’ suggestions or advice, but we must be critical.”

(Teacher C3, 1 year experience)

“We must be open minded and try new ideas or suggestions so as to develop professionally.”

(Teacher C4, 2 years experience)

“We must be open-minded in order to learn. If something new concerning teaching is supported by arguments about its usefulness, and I have the means to implement it, why not?”

(Teacher C5, 1 year experience)

“You must have an open mind in order to learn new things and hence keep developing.”

(Teacher C6, 1 year experience)

20. IMPOSITION

20.1 Teachers 12-13 years and 17-18 years

All the teachers of the above groups claimed that they must not disagree with superiors (e.g. inspectors, head teachers), who impose on them the use of various methods or teaching approaches, because this may have a negative effect on their evaluation¹. However, they added that in the freedom of their class they will choose whether or not to implement all of their superiors' suggestions or part of them, or even abandon them, depending on whether they lead to effective learning. In addition teachers A1, A2 and A5 stressed that in the Cypriot educational system the fact that teachers are asked to implement innovations without proper preparation may lead to superficial implementation.

“In the Cypriot educational system teachers are very often asked by their superiors to implement various kinds of innovations (e.g. teaching approaches, methodologies, new technologies) without adequate preparation. In these cases teachers feel defensive because they do not have the knowledge to implement them in the right way. Teachers must be adequately prepared about how to implement an innovation, before being asked to implement it.”

(Teacher A1, 18 years experience)

“When I have to implement inspectors' demands on my teaching I adjust these demands in ways that will help me promote my pupils' learning. Once, however, when I did this in a lesson that was observed by the inspector, the latter gave me a negative evaluation because I did not do exactly as he had said.”

(Teacher A1, 18 years experience)

¹ In the Cypriot educational system inspectors have the main responsibility for teachers' evaluation. Head teachers contribute to a small part to that evaluation. For more information for the roles of inspectors and head teachers in the Cypriot Educational system see Appendix C.

“When our superiors demand that we implement certain innovations we must listen. If I will implement something effectively however, I must be convinced that it works and I must be fully informed about how to implement it. Whenever I had to implement an innovation, imposed by superiors, I implemented it superficially simply because I neither believed in it (since I was not informed about its usefulness) nor did I know how to implement it appropriately. I just implemented it to get over with and then continued teaching in ways I knew would benefit my pupils.”

(Teacher A2, 18 years experience)

“I believe teachers must listen to what their superiors say and that they must not argue with them. Then they must implement only whatever they believe can promote effective learning. I used to listen to what my superiors said. In my class however, I implement only whatever promotes effective learning.”

(Teacher A3, 17 years experience)

“In our educational system our superiors keep imposing on us demands considering the implementation of teaching approaches or methods. If I agree that a certain demand is conducive to effective learning I try to implement it. If I disagree, I will not express my disagreement openly because the inspector will not be pleased, and most probably I will then be given a negative evaluation.”

(Teacher A4, 18 years experience)

“Our system is centralized. There are a lot of demands by the Ministry of Education and Culture about the goals we should set, the teaching content and the methods we should implement. Despite this, teachers have relatively a lot of freedom when they work in their class. Consequently I believe that they must have an open mind. Although the implementation of new methods demands preparation, which is not usually provided, colleagues must not rush to turn them down. They must experiment with them in order to see whether they promote effective learning. Then they can use in their teaching only what helps their pupils learn better. It is better to avoid disagreeing with inspectors, though...”

(Teacher A5, 18 years experience)

“There is nothing that teachers can do when their superiors impose their demands on their teaching. If they refuse to teach according to the way that it is demanded they may face a negative evaluation. What they can do is to experiment and reflect on what is imposed and if they decide that it is useful they can implement it. If they decide that it will not benefit their pupils they should not...”

(Teacher A6, 18 years experience)

“Once I had an inspector who insisted that the pupils work all the time cooperatively. In such cases when I am alone I teach according to the way I believe pupils will learn. Sometimes we have to pretend...”

(Teacher B1, 13 years experience)

“When I was newly appointed, the head teacher insisted that I use a specific method for teaching reading and writing at grade 1. My pupils had poor outcomes. So after some time I stopped and I used a different method.”

(Teacher B2, 13 years experience)

“You must not disagree with your superiors. However, in your class you must implement approaches that promote effective learning.”

(Teacher B3, 13 years experience)

“Teachers must experiment with what is imposed. Then they must reflect on whether it promotes effective learning. If it does not, they must decide whether to adjust it or abandon it. They do not have to tell their superiors though because they may not like it...”

(Teacher B4, 12 years experience)

“It is not wise to disagree with your superiors since they evaluate you. However, teachers must experiment. After they see the outcomes of using particular methods, they can decide whether to use them or not.”

(Teacher B5, 13 years experience)

“Teachers must listen to their inspectors and try to implement what they demand. However, when they see that something is not suitable for the level and abilities of the pupils they teach, they must not keep implementing it.”

(Teacher B6, 13 years experience)

20.2 Teachers 1-2 years

Two teachers (C1, C4) claimed that teachers must do what their superiors say so as not to risk getting a negative evaluation:

“If superiors impose on teachers how to teach, teachers must do what their superiors want... otherwise they may be in trouble...”

(Teacher C1, 1 year experience)

“When superiors impose, teachers must do as they say, because their superiors (e.g. head teachers, inspectors) evaluate them and hence they must get along with them.”

(Teacher C4, 2 years experience)

Two teachers (C2, C5) claimed that teachers must discuss with their superiors in case they disagree with them. C5, however, recognized that this may cause trouble:

“I believe that if teachers strongly disagree with their superiors, they must discuss this with them...”

(Teacher C2, 2 years experience)

“It is common phenomenon in our educational system to see inspectors impose their demands on teachers. I believe teachers must stand up for what they believe in. They should argue by presenting examples from their practice so as to show that their opinion is underpinned by experience... This has not happened to me. It is very usual in our system to hear colleagues say that they must do whatever their superiors say. I hope never to find myself in such a

position... I have also heard that colleagues, who expressed their disagreement towards the opinion of their inspectors, got a negative evaluation...”

(Teacher C5, 1 year experience)

Two teachers (C3, C6) claimed that in the freedom of their class they can decide what to do:

“Teachers must listen to their superiors. When they teach in their class however, they must be critical and use what promotes effective learning.”

(Teacher C3, 1 year experience)

“I believe teachers should not argue with their superiors. However, in the freedom of their class they can decide to use whatever they believe promotes their pupils’ effective learning.”

(Teacher C6, 1 year experience)

APPENDIX C

THE CYPRIOT PRIMARY HEAD TEACHER'S ROLE THAT REFERS TO CURRICULUM MANAGEMENT AND STAFF DEVELOPMENT

According to the regulations for the operation of primary schools in Cyprus, edited by the Board of Ministers in 1997, the paragraphs that refer to the primary head teacher's role in managing curriculum and staff development are paragraphs 1, 17, 20, 22. (All the paragraphs are 25.) These paragraphs are presented below:

Paragraph 1: The head teachers have the general responsibility for the smooth and effective operation of the schools they run. They are responsible for the effective implementation of the curriculum. The head teachers are assisted in their work by the deputies and the school staff.

Paragraph 17: The head teachers use various suggestions and actions in order to reinforce the efforts of the educationalists as well as those of the general public, that aim in giving each child the best possible education (e.g. physical, emotional, moral, social, etc.).

Paragraph 20: The head teachers promote the development of co-operation among the members of the staff.

Paragraph 22: The head teachers visit classes in order to guide, coordinate, check and evaluate the teachers' work and the pupils' progress, as well as whether the latter conform to the school's rules. It is suggested that these visits are planned in collaboration with the teachers.

THE CYPRIOT PUBLIC SCHOOL INSPECTOR'S ROLE DESCRIPTION

According to the Educational Law of the Republic of Cyprus, approved in 1976 by the House of Representatives, the aim of public primary and secondary schools' inspections and the role of inspectors are:

Aim of inspections: The main aim of inspections are the guidance and the provision of help to the staff of public primary and secondary schools, the coordination of teaching, the evaluation of the provided education as well as of the teachers' work and efficiency.

Role of inspectors: The inspectors are responsible for the transmission of the educational policy of the Ministry of Education and Culture (MOEC), for informing the MOEC about the views and suggestions of the Cypriot educationalists and for acting as a link between the MOEC and the Cypriot public primary and secondary schools. The main roles of inspectors are those of guide, counselor and supporter. Inspectors provide to the teachers of Cypriot public schools whatever kind of help is necessary in order to fulfil their work. They evaluate the overall running of public primary and secondary schools as well as the individual work of the educationalists employed in Cypriot public schools.

The above information as well as more information about the Educational Law of Cyprus can be found in the following edition:

OELMEC (Association of Greek-Cypriot Teachers of Secondary Education) 2004.

Educational Law of the Republic of Cyprus. Nicosia, Cyprus.